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लगाना विजत है। कृपया १५ दिन से ग्रधिक
समय तक पुस्तक ग्रपने पास न रखें।

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## THE PELICAN HISTORY OF ART

EDITED BY NIKOLAUS PEVSNER

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THE ART AND ARCHITECTURE OF ANCIENT AMERICA

THE MEXICAN 'MAYA' AND ANDEAN PEOPLES

GEORGE KUBLER

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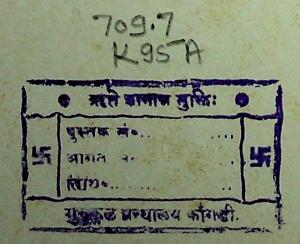


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TO THE MEMORY OF
WENDELL CLARK BENNETT
1905-1953



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#### FOREWORD

THE greater part of these chapters was originally prepared for lectures and seminars beginning in 1938 at Yale University, where the opportunity for studies of the art of American antiquity was first made possible by the late Dean E. V. Meeks and my colleagues in the Department of the History of Art. Other occasions to develop the treatment of the pre-Columbian past, as part of the history of art rather than as anthropology, which is the more usual treatment in American universities, were afforded me at Columbia University, the University of Chicago, at the Universidad Nacional Mayor de San Marcos, in Lima, and at the Universidad Nacional Autónoma in Mexico City.

Various visits to Peru, Guatemala, and Mexico were made possible by the Smithsonian Institution in 1948–9, when I represented the Institute of Social Anthropology in Lima; in 1951 and 1956, when Unesco engaged me to study the reconstruction of the monuments devastated in Cuzco by the earthquake of 1950; and in 1958 when I held a Smith–Mundt award for Mexico.

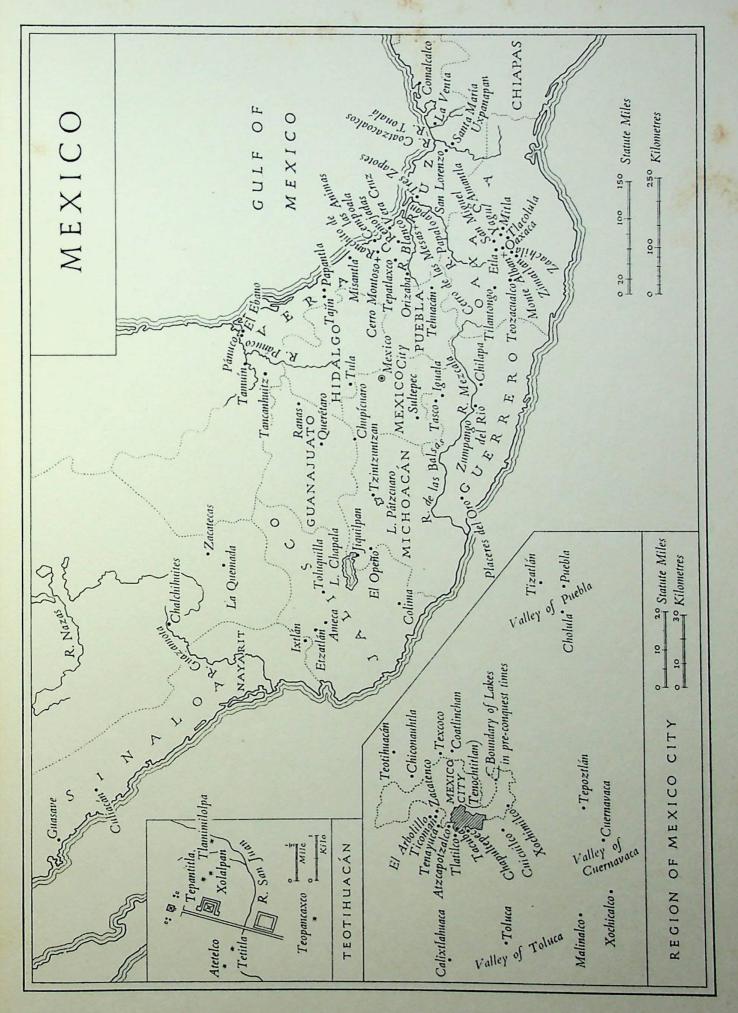
I am grateful to Professor Nikolaus Pevsner and the publishers for their generous efforts in securing new drawings for many text figures from K. F. Rowland, M.S.I.A., drawings for the maps from Donald Bell-Scott, and for the chronological tables from Sheila Waters. Professor Pevsner showed great patience as Editor of the Pelican History of Art in waiting so long for this manuscript, of which the first deadline fell in 1951. To him I am further indebted for an introduction at Cambridge University, where I was able to work in 1957 as a guest of King's College, and where G. H. S. Bushnell, Curator of the University Museum of Archaeology and Ethnology, kindly let me have the run of the Haddon Library, during the last months of a Guggenheim Foundation Fellowship awarded in 1956–7.

For advice and correction on many points I have benefited from conversations and correspondence with Junius Bird, G. H. S. Bushnell, Donald Collier, Gordon Ekholm, Alfred Kidder II, Tatiana Proskouriakoff, John H. Rowe, Linton Satterthwaite, Jr, W. Duncan Strong, and Gordon Willey, whose views have an authority gained in many years' field experience. The outsider from other fields of study never can assume this authority: it belongs only to the field archaeologist who works both in detail and in broad reconnaissance, and it may appear more in his conversation than in his writings.

Much complicated correspondence about photographs was carried on for me by Mary Margaret Collier, and I am obliged to Mrs H. Gordon Sweet for her aid in clarifying the text. Mrs Patricia Shillabeer Beach and Mrs Amelia Sudela typed long hours. Friends and students in Yale College – Colin Eisler, Terence Keenan, Joseph Baird, and Joseph Lyman – helped with many matters of detail. John Hoag, the Art Librarian at Yale, helped repeatedly in negotiations for photographs, and Helen Chillman allowed me to borrow negatives and prints from the University collections for many of these illustrations.

In Lima, my friend Abraham Guillén was the most reliable source of photographs. In Mexico City, the head archivist of the photograph collections in the Instituto Nacional de Antropología e Historia, Señor Ramón Sánchez Espinosa, was unfailingly helpful.

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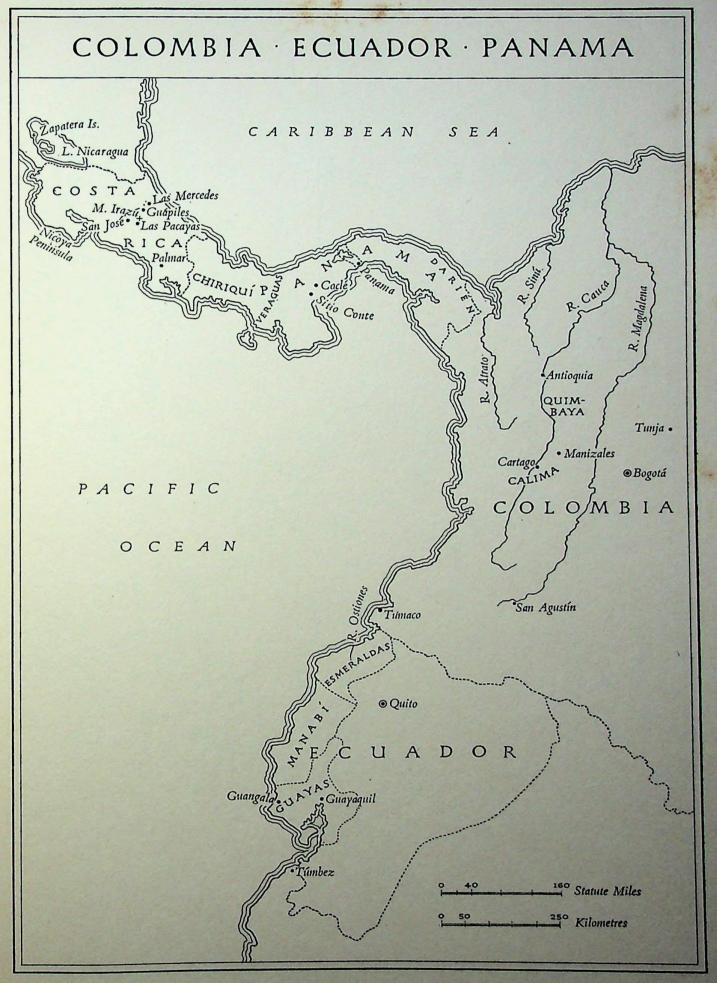


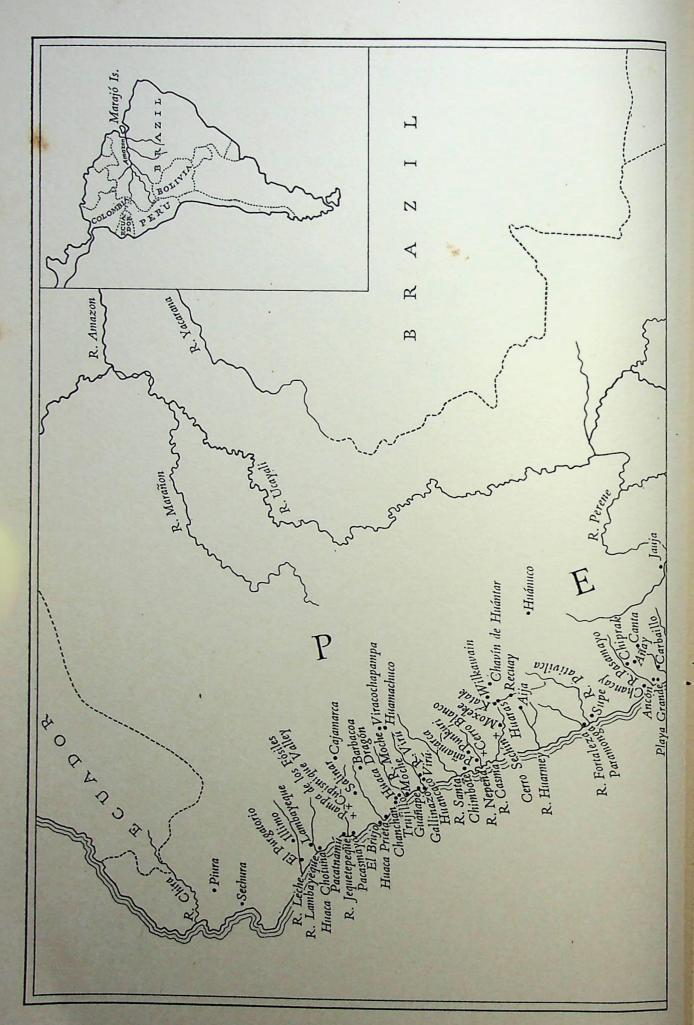
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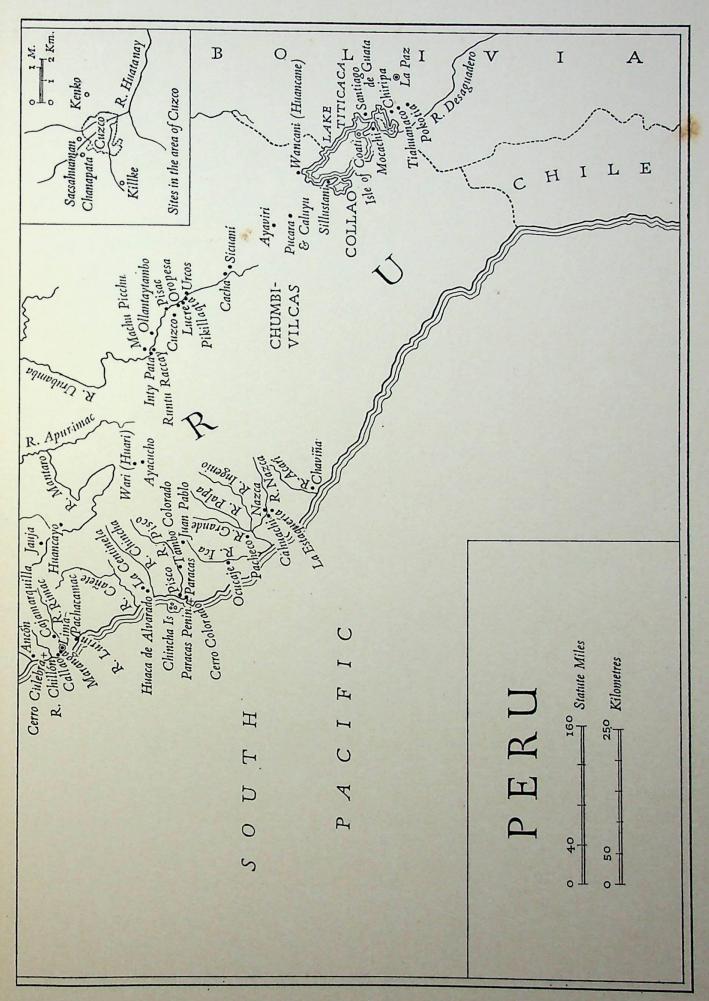
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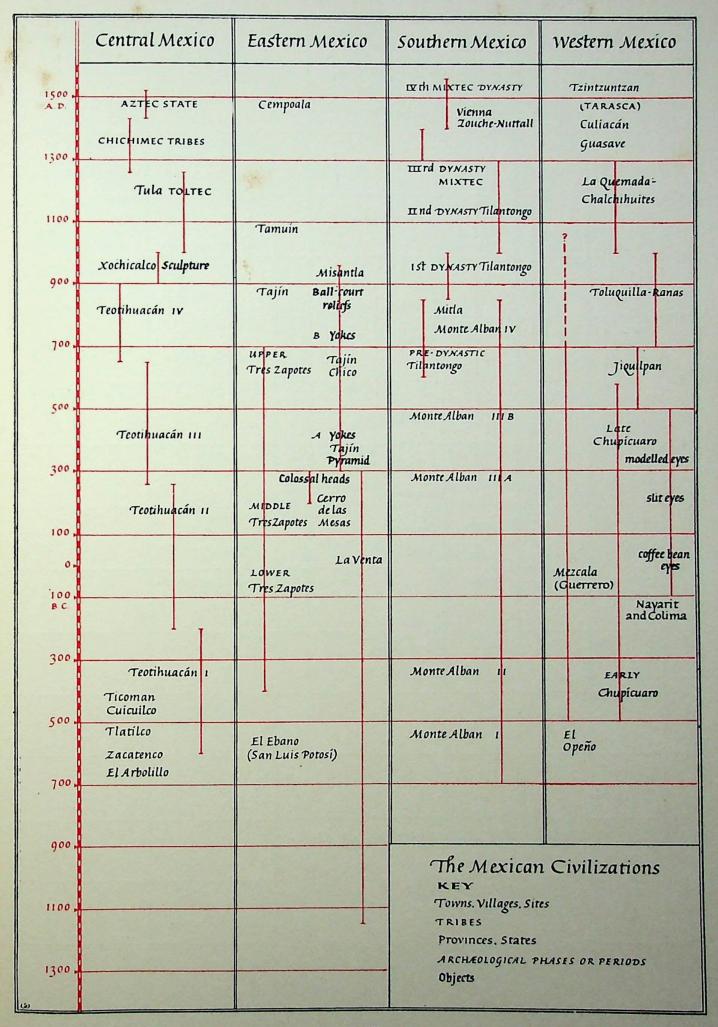
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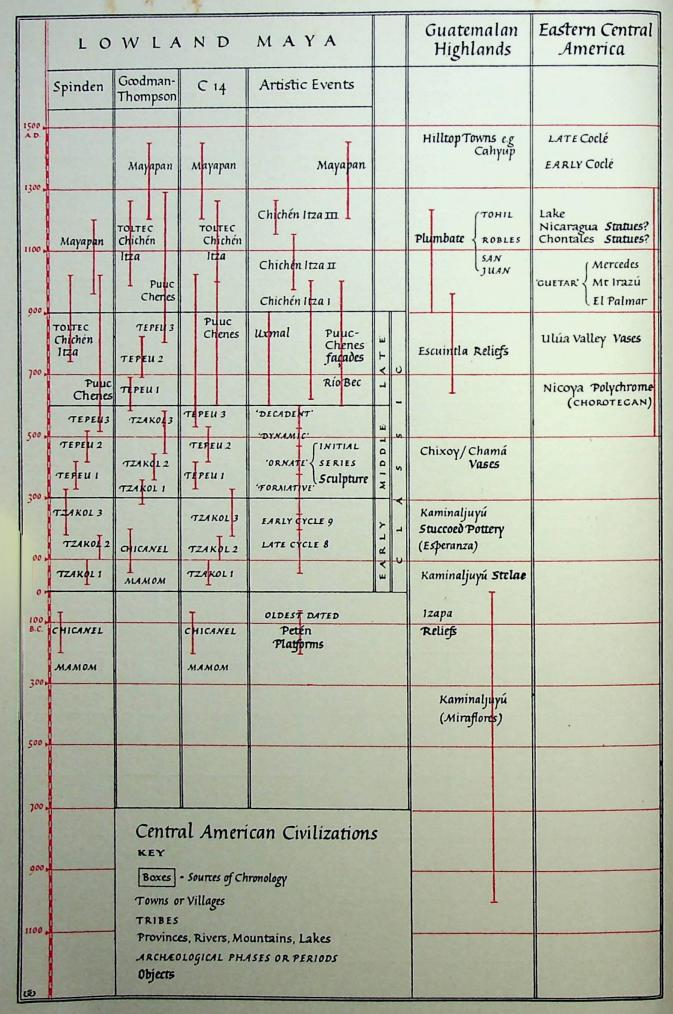




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	Northern Andes Colombia Ecuador	Northern Peru	Central Peru	South Coast	South Highlands
1500 ;	INCA		Chancay	Tambo Colorado	Cuzco Polychrome
A.D.	СНІВСНА Т	-INCA CONQUEST	Chiprak Canta	La Centinela	Cuzco rebuilt
1300	QUIMBAYA	–Pacatnamú Chanchan		lca	Killkepottery
1100,	Manabí мантейо	Lambayeque DYNASTY Huaca El Dragón		Tiahuanaco Styles:	Foundation of Cuzco
900,	PURUHÁ	COASTAL	Z	Pacheco 9 Huaca del 1	Wari and Ayacucho
700,	Calima	Tiahuanaco Cajamarca Mochica V	Pachacamac Ty	Nazca y 7	
	Tierradentro Guangala	Raimondi Stela (Chavín)?	PROTO-Lima Cajamarquilla	Nazca B 5	
500 >	Esmeraldas Tuncahuan	MOCHICA IY	Maranga III	'Nazca A	CLASSICTiahuanaco
300	San Agustín	MOCHICA III. Cupisnique D		Necropolis = Nazca	
0.	. PROTO- PANZALEO	Moche, Sun pyramid? Recuay B	Cerro Culebra II	Cavernas  LATE Paracas	Pucara .
B.C.		MOCHICA II Cupisnique C	Playa Grande	Ocucaje EARLY Paracas	
300		Cupisnique B Salinar Mochica 1 MEGATIVE RECUAYA		Juan Pablo Duration of Paracas	Chanapata Chiripa Caluyu
500		POTTERY  WHITE-ON-RED COASTAL  Chavin  (ASTILLO STYLE  (Chavin)		MECROPOLIS ? STYLE	
700		Cerro Blanco Cupisnique A Punkuri Maxeke T Sechin			
900		EARLY Guañape		The Northern & Central Andes	
1100,		PLAIN  POTTERY  EARLIEST FOTTERY?		Towns, Villages, Sites  TRIBES  Provinces, States, Valleys	
1300,		Huaca Prieta 2.700 BC 🛉		ARCHEOLOGICAL PH Objects	ASES OR PERIODS

#### CHAPTER I

## INTRODUCTION

THE purpose of an introduction is to identify its bearer to his host in a phrase or two that solicit mutual understanding. In this book, products of aesthetic value are the principal theme. I have at all points sought to avoid the suggestion that works of art are mere illustrations to civilizations, preferring to present the artistic object itself as the unit of study. I have written about 'cultures' only when such topics were required to illuminate the objects, which are after all the principal proof of the 'culture's' existence. Hence my text will not satisfy students of 'cultures' alone; it is written for people whose main interest attaches to works of art.

### THE LANDS AND THE PEOPLES

With this proviso in mind, we can approach the history of the various peoples of ancient America. Only their works tell us about them. We deduce that some were simple villagers, while others were priestly rulers or professional warriors. A few literary sources of pre-Conquest date confirm these rarefied deductions. Occasionally a city like Chanchan (p. 266) speaks to us of complicated dynastic politics; Palenque must have been a courtly centre of exquisite refinement (p. 130). But beyond these affirmations we cannot reconstruct any web of events without written records. Chanchan came into being without benefit of writing, and more than half the written signs of Maya civilization are still undeciphered. Only very occasionally the traces of an identifiable individual artist are legible; for instance in the sculpture of Palenque (p. 156) or in the pottery portraits of the north coast of Peru (p. 257). Hence the artistic identities are remote and unclear: they emerge indistinctly from their works, and if it were not for these works, we could not apprehend personalities at all.

The lands to be omitted are far more extensive than the ones to be discussed. There is nothing here about North America above the 24th north parallel of latitude, nor in South America below 20 degrees south. Our western limit lies on the Pacific coast of Mexico at about longitude 105 degrees west. Our eastern boundary, in the Andean altiplano of Bolivia at longitude 75 degrees west, excludes all lowland South America. The reason for these exclusions is a simple one: in the vast lands of eastern South America and of ancient North America there were few people. Less than 20,000,000 persons were alive in America in 1492,<sup>1</sup> and half of these lived in the region defined by the scope of this book. Only the Mexican, Maya, and Andean peoples were numerous enough to live in large cities, producing the economic surplus that allows specialized craftsmen to build great temples and to fashion works of art. The rest enjoyed the protective isolation of aboriginal living to the point of producing very few things for us to

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study. If the ancient manufactures of many of these tiny, scattered tribes were beautiful, we do not know it; for very little has survived. In any event, their styles will be separately treated in the volume of this series given to marginal peoples throughout the world, under the rubric of primitive and prehistoric art.

My scope embraces only the principal urban civilizations of ancient America, from the Tropic of Cancer to the Tropic of Capricorn, in a quadrant as wide as from Lisbon to Istanbul, and as high as from Cairo to Leningrad. It lies upon the latitudes of Central Africa, and is about equal in size to western Europe. As in western Europe, the coastlines define several seas, but the American land area is far smaller, and its river systems separate the regions more than they connect them. Much of the land surrounds a great Atlantic body of water, of which the western (Gulf of Mexico) and the eastern (Caribbean Ocean) parts are analogous to the eastern and western Mediterranean.

A convenient if equivocal recent name for the total region is Nuclear America, and we retain it here for the moment because it is a historical term, and because no better term has been coined. The northern half, which is more thickly settled than any other part of ancient America, includes the Mexican, Maya, and Central American peoples. If the Caribbean Islands are included, this northern portion is usually called Middle America. The mainland territories alone, without the islands, are called Mesoamerica. These new names correspond more to historical than to geographical groupings, and they avoid the awkward traditional demarcation, drawn between North America and Central America at the Isthmus of Tehuantepec, which was always a thoroughfare more than a frontier in human affairs. The true cultural division between Mesoamerica and South America is at the Isthmus of Panama.

The southern part of the Nuclear American quadrant comprises the northern and central Andean peoples, with the most dense populations clustering in the Pacific Coast valleys of Peru. The Mexican, the Maya, and the Andean peoples probably maintained intermittent contacts by land and sea, but these were certainly much less frequent and much less productive than ancient commerce between Imperial Rome and the Han dynasty in China.<sup>2</sup>

An early draft of this book, written in 1950–1 and now discarded, was an attempt to treat Nuclear America as a unit, with the main divisions by architecture, sculpture, and painting. Each main division in turn was divided by topics, with examples drawn from the appropriate regional divisions of the quadrant. The effort was premature, and the effect was like that of a jigsaw puzzle, making the reader put together examples from many parts of America in order to produce the desired picture. It corresponded to a tendency then much in vogue to lessen the differences between regional styles, and to increase the impression of unity and equivalence among the arts of various unconnected regions. It gave the impression that, in the Andes and in highland Mexico, the same kinds of races towards the same goals were being run by men unaware of each other's existence, yet running at the same speeds, and marking laps of equal length at the same times.<sup>3</sup> This tendency to reduce the complexity of American prehistory came about in reaction from the despair of students in the years before 1945, when every valley and every site seemed to yield new 'cultures' unconnected with anything else.<sup>4</sup>

Fifteen years later, such a *simpliste* view is untenable as the evidence gathers in favour of varying time-scales in each of the principal regions. How is the matter best presented for students of art? The choice lies between two methods of discussing events in time: we may cut across the face of time at intervals in the past; or we may unravel the rope of time into its separate geographical strands, and treat each in a chapter or two to itself. The difference is like that between crosscut and ripsaw woodcutting. With the crosscut saw we can make synchronous sections; with the ripsaw we make diachronous cuts (through time in depth) at various places.

The crosscut method has many of the disadvantages of the jigsaw puzzle: it is misleading to arrange the matter so that the cuts will measure evenly; and it is confusing to have to hold so many examples in synchronous balance. I therefore resolved in 1957 to rewrite the entire text, using geographical divisions as the main parts and chapters, with a complete chronological review of the principal artistic events in each region. The archaeological region is the building-block of the present volume, and the tables are provided to guide the reader in correlating the probable cross-ties in time between the blocks. The size of the geographical blocks is a function of the length of the book. If it were longer, they could be smaller, but as it is the geographical units have been kept at twelve: four in Mexico, three in Central America, and five in western South America.

## Mexico

Mexico is a plateau country laced by mountain ranges and rimmed by narrow coastal shelves. The Pacific half is dry and sparsely settled. The Atlantic half enjoys wet winds, and it is more hospitable to dense human occupation. Midway between them is the metropolitan Valley of Mexico, the eternal capital. In the south the highlands are bare and austere, but the deeply carved, wide river valleys nourished civilizations of great age and remarkable achievements. Northern Mexico is a desert belt 500 miles wide, insulating the more southerly valleys from the continental spread of the rest of North America, into which only the eastern coastal plains funnelled a thin trickle of Mexican highland influences during antiquity.

Central Mexico for our purposes is a plateau country about 6500 ft high. It surrounds the capital in a circle roughly 100 miles in diameter. It was always metropolitan, even when its achievements were overshadowed by those of other regions, just as Rome remained somehow a world capital even at the lowest ebb of its fortunes. The hundred-mile circle includes Cholula, Tula, and Xochicalco in a connected group of broad, high, well-watered valleys that attracted dense settlement from the earliest days of human immigration. Its climatic history shows great fluctuations, and they are reflected in the rise and fall of civilizations, as well as in the Toltec and Aztec cosmogony of successive world ages terminating by flood or in fire. The dominant language of the region was Náhuatl, spoken by the Aztecs as well as by their Toltec predecessors.

The East or Gulf Coast has three ethnic divisions, like the Atlantic coast of France with its Basque, Breton, and Norman peoples. It is a narrow lowland coastal plain of tropical climate, narrow in the north and widening at the southern end, with placid rivers winding

slowly through dense vegetation in nearly flat country. In the southern rain-forests lived the Olmec peoples, whose name signifies 'the dwellers in the land of rubber'. The central coast is more variegated and it was the magnet for a sequence of invasions, of which the Totonac people were the last to occupy the region before the Spanish Conquest. In the north are the Huastec people, whose language is an archaic form of the Maya tongue, separated from the main stock in Yucatán and Guatemala by enclaves of Olmec and other peoples.

Southern Mexico includes the states of Oaxaca, Tehuantepec, and Chiapas. The historic centre lay in the great valleys of central Oaxaca surrounding Monte Alban. As climate varies with altitude in Mexico, these lower valleys enjoy a milder climate and a more tropical vegetation than the plateau, without the steaming discomfort of the Atlantic coastal plains. In western Oaxaca, however, the arid mountain settlements of the Mixtecs harboured tribes of a cultural tradition like that of the central-plateau peoples. The centuries-long conflict between the Mixtecs and the Zapotecs in the valleys of central and eastern Oaxaca eventually reshaped the course of Mesoamerican history, when the victorious Mixtecs extended their dynastic rule and religion to other regions (pp. 82, 90).

Mexico becomes more arid closer to the Pacific, and more specifically west of the 100th parallel of longitude, because of dry winds and because of the rarity of great river basins. Only isolated pockets receive the rainfall necessary for dense human occupation. Ancient habits of early village life survived far longer than in the east. From Michoacán and Guerrero westwards, the sparsely-populated plateaus and mountain valleys lack great monumental centres or temple clusters. There are a few exceptions in the late Tarasca towns of the lake region in north-eastern Michoacán (p. 110), or the western colonies of the Gulf Coast tribes at Toluquilla and Las Ranas (p. 112), but, in general, the great upheavals that transformed the more metropolitan eastern half of ancient Mexico seem to have registered only faint effects in the west. The Aztec expansion in the fifteenth century, which embraced all other regions of Mesoamerica, never penetrated west of the valley of Toluca.

## Central America

The Isthmus of Tehuantepec divides the North American continent, of which mainland Mexico forms a part, from Central America, which in turn divides into three main archaeological regions: (1) the Pacific highlands of Chiapas, Guatemala, and Salvador; (2) the Maya region north of the highlands, including northern Guatemala, British Honduras, several Mexican states (Chiapas, Tabasco, Campeche, Yucatán, and Quintana Roo), and parts of western Honduras; and (3) eastern Central America, which embraces eastern Honduras, part of Salvador, and all of Nicaragua, Costa Rica, and Panamá.

Maya civilization, enduring from about the time of Christ until the fifteenth century, occupied the second of these regions as the metropolitan focus to which both the Pacific highlands and the rest of Central America were either provincial or marginal. The

Maya peoples, like the Greeks in the ancient world, set the pitch in pre-Conquest America. Their intellectual achievements provided the foundations for the culture of their contemporaries and successors. Like the Greeks again, the Maya peoples appeared late upon the scene, profiting from the attainments of their predecessors, and imposing upon the history of civilization a pattern of behaviour both novel and durable, and categorically different from what had preceded. It crumbled under invasion by more aggressive peoples, who nevertheless retained among their traditions large portions of Maya learning and Maya sensibility.

There were exceptions to this rule. In the Pacific highlands, the pre-Maya and post-Maya peoples were more significant than those of the era of Maya ascendancy. Thereafter, as before the rise of the Maya, Mexican peoples of diverse origins were in control.

Eastern Central America likewise flourished independently both before and after Maya ascendancy. After A.D. 1000, various Mexican intrusions altered the history of the land, but old sculptural traditions in stone survived until the Spanish Conquest. Costa Rica and Panamá were important in transmitting to Mesoamerica the knowledge of metallurgy that probably originated in western South America. Panamanian gold-work is an extension of northern South American styles and techniques, so that it is correct to consider the Isthmus both as a frontier and as a place of passage.

## The Andean Environment

Western South America above 20 degrees south sheltered several urban civilizations in the lower portion of our 'nuclear' quadrant. The contrast with Mesoamerica is antipodal. The Mexican and Maya peoples were preoccupied with the figure, the nature, and the position of man, much like the peoples of the Mediterranean, who marked out the humanistic tradition of western Europe by phrasing all experience in the human shape.

In the Andes, utility was the superior consideration. The conquest of the environment by irrigation and terracing, by metallurgy and material techniques of all kinds, and by social discipline at the expense of individual man, gave Andean society a harsh tone, closer both to the present and to the rigours of tribal life than the more poetic view of existence maintained by the societies of Mesoamerica.

The small tribal units of the northern Andes, in Colombia and Ecuador, are similar in number, in linguistic affiliation, and in general cultural attainments to those of eastern Central America. The central Andes on the other hand sheltered human groups whose collective efforts were repeatedly organized into large states under unified control. The best-known example is the Inca Empire, formed near the conclusion of the independent native history of the continent, and extending about the year 1500 from Quito to northern Chile and north-west Argentina. Modern knowledge of the central Andes did not penetrate beyond the Inca state until the present century, when many earlier cultural stages were gradually recovered by archaeological methods.

Today, coastal and highland varieties of central Andean civilization can be distinguished. Northern, central, and southern provinces are clearly delimited by distinct

styles of building and manufactures: the northern peoples preferred sculpture and large works of architecture; the southern peoples inclined towards painting and the textile arts; and in central Peru northern and southern traditions blended, upon an armature of local preferences varying widely from valley to valley.

### THE CHRONOLOGICAL PROBLEM

Reconstructing the time-scales of American antiquity has been a main concern of archaeologists since the beginning of the century. Stratigraphic methods were first employed by Thomas Jefferson in Virginia,<sup>5</sup> and are today systematically amplified in thousands of observations. These yielded the first main sequences, based usually upon pottery types and styles. Textual studies have also allowed many chronological deductions. The most rewarding suggestions for dating come from the method of radiocarbon measurement of the residues of natural radioactive Carbon 14 in organic remains.<sup>6</sup> Invented in 1947, the method still requires further refinement, and its results are far from unequivocal. It permits absolute dating only with statistical errors which still exceed a century, and which often leave a margin of doubt as broad as a millennium.

It is instructive to rank the main regions of American antiquity by the reliability and the exactness of our chronological knowledge. Maya studies lead the field, because of the incomparable epigraphic material carved upon buildings and relief sculpture. Many archaeological ties allow Mexican materials to be dated in relation to the Maya series, and there are reliable texts of pre-Conquest origin which pin down the events of the last few pre-Columbian centuries. Lowest in the order of chronological fineness and credibility are the Andean sequences, where gross relations are sure, but not the intermediate positions. It is as if we knew only that Carolingian art preceded the Renaissance, but not how many centuries intervened, or whether the sequence was valid for Spain and England too.

Much of our knowledge of Andean antiquity is based upon pottery styles, and we have no sure knowledge that continuous pottery-making traditions reflect continuity in other fields of historical activity, or that non-symbolic changes in pottery styles really correspond to anything outside the domain of the potter's art. When symbolic shifts are apparent, and when these coincide with major changes in building activity, it is reasonable to suppose that ethnic re-alignments by conquest or conversion are involved, but their exact nature cannot easily be deduced when there is no text of any kind to guide us.

Deductions of this sort nevertheless colour our understanding of the American past with exaggerated hues and contrasts. For example, the prevailing division of antiquity by pre-Classic, Classic, and post-Classic eras, as used in this book, corresponds in most investigators' minds to a sequence of stages in the economic and political organization of the American Indian peoples. Pre-Classic times, prior to the Christian Era in our normal chronological thinking, were the age of early village societies; the Classic era witnessed the rise and fall of theocratic states: and in the post-Classic period feudal aristocracies appeared, under dynastic rulers engaged in military expansion. The pattern is assumed to

be the same wherever large urban populations thrived, with only minor variations of terminology, such as the term 'florescent', which means the same thing in Andean studies as 'Classic' in Maya archaeology. The American evidence is sometimes instructive about stages on which Old World archaeology has little to say. An example is the architecture of the ritual concourse centre, for which Maya and Mexican examples are abundant. Old World examples are few and incomplete, like Stonehenge or Avebury.

I have no alternative to offer for this grand neo-evolutionary scheme. It is probable that early American civilizations did not evolve very differently from those of the Old World; but my interest in style precluded any arrangement by evolutionary stages.

## ANTHROPOLOGY AND AMERICAN ANTIQUITY

Our principal question should be aimed at the methods of arriving at this knowledge. It is a striking fact that the study of Old World antiquity was from its beginnings in the Italian Renaissance a branch of humanistic learning, while the study of New World antiquity, which has been systematically pursued only since about 1850, soon took a scientific turn, relating it more closely to anthropology than to humanistic studies.

An explanation of this split is easily provided. Archaeology began in Europe as an auxiliary method. Wherever the written word was missing, the earth itself could be searched for inscriptions, coins, and similar literary evidence. From being the last recourse of the philologists, archaeology became first the diversion and then the obsession of those students of language and literature whose aim was to enrich the fund of monuments illustrating the literatures of the ancient world. Soon after 1850, archaeology escaped its philological servitude to become an instrument for the reconstruction of periods of time less vast than those of biology, yet far ampler than those of recorded history, and embracing the whole history of mankind. Enriched by typology (series of similar objects) and stratigraphy (the layering of remains in chronological sequence), archaeology soon parted company with the humanities, and in America its workers joined forces with those busy in the social sciences. Among these anthropology has aimed to govern an enormous range, including the biological, linguistic, societal, and historical attainments of mankind in all phases of development.

Today an archaeological report on an American site is a 'scientific' production of graphs, statistics, and impersonal language purporting to reach proven and repeatable conclusions. Such a report has nothing to do with the interpretation of literary works; on the contrary, philology has almost been forgotten by archaeological science. Where the excavation finds are unblessed by writing, philology entirely disappears. Indeed, the 'scientific' connexions of archaeological work, whether in Europe or America, increase as the material culture under study approaches 'primitive', i.e. non-literate, art.

Hence archaeology in America joins with ethnology (the study of living peoples) and with linguistic science as a section of anthropology, dedicated to the study of 'primitive' peoples. Archaeology is a scientific technique rather than a fully autonomous discipline. It is important whenever documents fail to yield direct evidence of the past. In the hands

of the anthropologists, it is applied to the recovery of information about social structure and economic life. In this context works of art are used as sources of information rather

than as expressive realities.

Of course the tradition of collecting information about exotic societies has a long past in America. The classic example is the work of the Franciscan friar, Bernardino de Sahagún. For twelve years, from 1558 to 1570, he consulted with native informants in central Mexico to compile a great encyclopaedia of the native peoples in the Náhuatl language. Another compiler was the bishop of Yucatán, Fray Diego de Landa. On Peru we have among many others the sixteenth-century work by Pedro Cieza de León.

All these sources may be described as a literature of economic and political purpose. When monuments are mentioned, it is not for the sake of their form or expression, but to indicate that important centres of population were present, or that treasure might be latent. The notion of any artistic value beyond magnitude of enterprise, strangeness of form, and rarity of material was absent from sixteenth-century commentaries upon pre-Conquest manufactures.

In the seventeenth century a new kind of writing about Indian matters made its appearance. Civilian colonists and clergy alike, in their concern for the spiritual advancement of the native peoples, found it necessary to extirpate the ancient idolatrous practices that still flourished in countless towns. 10 Many reports tell of sites and cult objects, giving explanations of their use and describing their destruction. The final destruction of Indian symbolic expressions was completed in the seventeenth century.

Later writers were reduced to collating the early sources. In the eighteenth century the Jesuit historian Francisco Clavigero wrote an account of antiquities that has long served as a handbook of Mexican archaeology. The historians of the Enlightenment, such as Raynal, Robertson, or de Pauw, who wrote of America, added little that was new to these prior accumulations. We have here employed correlations based upon the chronology advocated by H. J. Spinden for the art of the Classic Maya period. The Christian equivalents in text and captions are readily converted to the alternative later equivalents (Goodman–Thompson–Martínez) by adding 260 years.

A vast expansion of exact knowledge accompanied the opening of Spanish America to European travellers following the Wars of Independence. Alexander von Humboldt and Alcide d'Orbigny were among the earliest. Baron Waldeck and J. L. Stephens published the principal Maya monuments before 1845; in South America, J. J. von Tschudi and W. Bollaert presented many linguistic and archaeological discoveries to the European public. Their successors, E. G. Squier, T. J. Hutchinson, Charles Wiener, and

E. W. Middendorf, covered Peru with a further network of explorations.

A generation of field archaeologists appeared after 1890 – A. Bandelier, W. H. Holmes, A. P. Maudslay, Max Uhle, and T. Maler. Their immense apparatus of field reports and excavation accounts laid the foundations of modern archaeological knowledge about pre-Columbian America. At the same time in Germany the philologist Eduard Seler patiently collated the textual sources for Mexican and Maya history in many essays and commentaries.

Between the World Wars the responsibility for American archaeology was assumed entirely by governments, foundations, public museums, and universities. Corporate campaigns of research, like those of the Carnegie Institution of Washington, yielded hundreds of books and papers on all aspects of Maya civilization. Since 1945, however, financial support by great institutions to American archaeology has dwindled away, and it is a rare event when sustained effort by a numerous field party is dedicated to a programme of excavations such as the one now in progress at Tikal in Guatemala under the auspices of the University Museum in Philadelphia.

One consequence of the disappearance of massive financial support for new excavation has been a renewed effort by anthropologists to generate fresh interpretations of the historical meaning of American Indian cultural history. Since these ideas arise more from works of art and architecture than from any other evidence, we should here examine them with care in order to correct our own course if necessary.

In the attempt to study the whole configuration of culture, anthropological science has been concerned with aesthetic activity only as a component of culture. The question at once arises whether 'culture' indeed 'includes' aesthetic activity. The anthropologist usually assumes that every aesthetic choice made by the members of a culture must be determined by that culture itself. But when we apprehend any culture as a whole, its axioms or postulates resemble aesthetic preferences. Thus two peoples living under similar environmental conditions may exhibit contrasting attitudes in respect to the total ordering or integration of their lives. At every point in the long, unconscious adaptation to environment, people have the faculty of choice. They can reject some alternatives, and accept others, more often than not for reasons of pleasure and dislike rather than necessity. To be sure, many people's choices are conventional, but we are here discussing the significant choices of the minority élite whose decisions become conventions. In all epochs, artists have been foremost in channelling the future along these fateful ways of pleasure and displeasure.

The history of art cannot entirely be included by anthropological science, despite the fact that the history of art treats only a fraction of the material culture which is a main object of anthropological research. Anthropological conclusions about a culture do not automatically account for the art of that culture. As Jakob Burckhardt long ago remarked, on the State as a work of art, the culture itself can be regarded as an aesthetic product, brought into being by the same non-rational choices that mark a work of art. On the other hand, the work of art is of course incapable of being made to explain all the culture in which it was produced. No explanation of culture ever fully accounts for its works of art because aesthetic activity lies in part outside culture, and because it is anterior to culture as a possible agent in the processes of change.

Another consequence of this reification of culture by anthropologists is the rigid evolutionary scheme of cultural development in fashion since about 1950. If culture is a real entity, then its existence in time must have had segments, separated by determinable historic dates. This kind of thinking is familiar enough in historical studies, where numerous documents require the introduction of nuances into the artificial device of historical periods. In archaeology, however, there is always present the temptation to

adjust the durations to preconceived ideas of their content; 13 for example, the style of pottery painting found at Tiahuanaco in Bolivia (p. 309) re-appears throughout the central Andes, seeming to displace earlier local manners. No texts explain these events, and archaeologists have felt free to suppose firstly that the Andean diffusion of the style corresponds to military conquest or religious conversion by a dynamic tribe residing at Tiahuanaco, and secondly that these events occupied a narrow span of time after A.D. 1000 in the post-Classic era (Chapter 16). Today, however, more and more lines of evidence converge to suggest that the centre of diffusion was not at Tiahuanaco but in the Mantaro basin, and that the spread of the style lasted many centuries, antedating the putative 'expansionist' period and beginning even in pre-Classic times.

In short, ceramic frequencies give reliable information only about very coarse time relationships: about the history of the craft itself, and perhaps about economic conditions if other evidence is available. But sherd frequencies are unsatisfactory evidence for political or sociological reconstructions. Pottery sequences reflect other orders of events only after delays and with much levelling of a more agitated reality. If we had to rely upon ceramic history alone for our knowledge of Hellenic events in the period 550-450 B.C., the shift from black-figure to red-figure painting would probably be interpreted as a political or sociological event rather than as a transformation within the craft.

The general effect of the imposition of rigid developmental categories has been to stress discontinuity and rupture, rather than continuity in regional and local traditions. For instance, each major change in the pottery style of a valley is hailed as a new 'culture', even when the older literary sources, closer to the events, report continuity. As an example, Sahagún recorded the Aztec tradition of Old Toltecs and New Toltecs in central Mexico,14 referring to a continuity which today has been broken by scholars into separate 'cultures'. Thus 'cultures' have been multiplied inordinately; local groupings receive more attention than the main traditions; and 'crosscut' comparisons

(p. 3) have become the principal method of historical reconstruction.

A century ago W. H. Prescott wrote of the conquest of Mexico and Peru by Spain, and he prefaced the narrative with a luminous account of Aztec and Inca life based upon Spanish eye-witness accounts and on their records of the events of the fifteenth and sixteenth centuries. Behind that horizon nothing was known. Today the curtain has been pushed back to disclose the continuous existence of peoples changing from the nomadic lives of palaeolithic big-game hunters into sedentary villagers and ultimately to great religious communities and dynastic states. But nothing of major consequence has been added to our knowledge of the accompanying historic events. If we now know more about the course of American time, we still know very little about its burden of events and persons. This reconstruction of the river bed without its river has been the main achievement of the anthropologists in this century.

## DIFFUSION OR POLYGENESIS?

The other main theme in recent anthropological discussion concerns the diffusion of culture from the Old World to the New. Two schools of thought are present: the diffusionists, who exclude the possibility of independent invention; and the Americanists, who defend the thesis of independent origins for New World civilizations. Diffusionism has had defenders since the sixteenth century, when the lost tribes of Israel were invoked to account for the racial origins of the American Indian peoples.<sup>15</sup>

The thesis of independent origins was first stated in the 1840s, by F. Kugler in Germany, and by J. L. Stephens in the United States. 16 Both men independently destroyed the arguments for Old World origins of American Indian art by demonstrating the autonomous and self-contained character of the principal artistic traditions, and by showing that resemblances to the arts of other regions of the world, such as India or Egypt, could be explained as convergences rather than as borrowings by Americans from Old World sources.

In our century, the topic was dormant for a generation, from about 1925 to 1950, when the thesis of the independent origins of the New World civilizations was the orthodox view among North American archaeologists, working mainly under the leadership of A. V. Kidder at the Carnegie Institution of Washington. Their hypothesis was that America received its first settlers from north-east Asia near the close of the last Ice Age, and that migration was thereafter cut off by physiographic changes at Bering Strait. All American Indian civilizations were believed to have developed independently upon this palaeolithic base, without further influences from the Old World. The hope was to prove that the human species, if cut off in a favouring environment near the beginnings of history, would spontaneously develop cultures parallel to those of the other races of mankind, but owing nothing to them by way of historical influences beyond the original palaeolithic fund of knowledge.

The independent inventionists have never denied the occurrence of small-scale intermittent migrations from Asia or Europe, like those of Scandinavian sailors after 1000 to the coasts of Massachusetts and Rhode Island. But they have rightly regarded these episodes as insignificant in the large framework of indigenous development. More important is the absence of major Old World traits from the technological repertory of the New World peoples: traits such as horses and wheeled vehicles. The diffusionists have not provided any explanation of these absences.<sup>17</sup>

This problem of the origins of American Indian civilizations remains one of the great open questions in world history. The linked sequences of Old World history afford no opportunity to verify the thesis of distinct cultural traditions arising from independent origins. Only America provides the possibility of establishing a case for independent invention. We must therefore weigh with extreme care any assertion pretending to resolve the issue. We cannot here test the racial and agricultural evidence, but we should be prepared to question the visual comparisons upon which the new diffusionists have based certain recent arguments.<sup>18</sup>

For example, Ekholm has supposed that a centre of Asiatic influences flourished after the eighth century A.D. on the western border of the Maya peoples, bringing into Mesoamerica traits imported from the art and architecture of south-east Asia. For nearly every one of these forms, however, still other Old World origins can be suggested. The trefoil arch of Maya architecture occurs not only in western Pakistan about A.D. 400, but also in Islamic and Romanesque architecture. The miniature roofed building inside a temple recurs not only at Ajanta in India, but in Hellenistic architecture. Sacred-tree or cross forms are obviously of Early Christian significance, in addition to the late Javanese or Cambodian examples adduced by Ekholm. Court scenes like those of Bonampak or Piedras Negras are common in Byzantine art. Colonnette decorations on façades pertain to Romanesque art as well as to Khmer temples. Corbel-vaulted galleries are Mycenaean as well as Cambodian. Serpent forms, Atlantean figures, and phallic statues are not restricted to south-east Asia, but recur throughout the art of the ancient Mediterranean. Doorways framed by monstrous mouths stand in Christian art for the gate to Hell. The Chacmool figure can be compared to classical river gods as well as to figures of Brahma. In other words, for nearly every item adduced in this list, an older European parallel can also be proposed. The thesis of Asiatic origins is thus easily diluted to include the entire Old World, and the Asiatic 'focus' loses precision.

In addition, these forms all belong to autonomous American iconographic types. The famous comparison between Shang or Chou Dynasty bronze scrolls and the scrolls upon Ulúa valley vases of about A.D. 1000, first pointed out by G. Hentze and revived a generation later by M. Covarrubias, belongs to this class. Chinese bronze scrolls belong to one iconographic series; Ulúa valley scrolls pertain to another series. Both series depart from dissimilar sources to converge in an adventitious resemblance that has misled all students who were unaware of the separate typological series embracing each term of the comparison. The argument is like assuming a close blood relationship between persons who look alike, although born many centuries apart, of different races and on different continents. The resemblance is accidentally convergent, and it cannot be used to establish a genetic connexion without supplementary proofs.

### THE HISTORY OF ART

This modern academic discipline of collecting, selecting, interpreting, and evaluating works of art and architecture owes its origins as a humanistic study to Renaissance historiography (Vasari) and to classical archaeology. Its connexions with anthropology have never been close. In the realm of aesthetic choice the history of art treats roughly one-third of all possible human activity. This realm is the main theatre of human volition: it is neither of the senses nor of the intellect, but between them and participating in both. We have already discussed the anthropologist's restrictive view of the cultural place of artistic activity: let us now look at the art historian's view of the materials of American archaeology.

In general, he regards aesthetic products as furnishing symbolic values rather than

useful information: he is concerned with intrinsic being more than with applications. The first explicit statement about the history of ancient American art was written c. 1840 by a German historian of art, Franz Kugler. He prepared the earliest general history of world art, written for the Prussian king and published in 1842.19 The American section was composed before the appearance of J. L. Stephens's path-finding views on the origin of Maya civilization. Kugler first stated the 'independent inventionist' doctrine, which is still fundamental, if controversial, in American anthropological theory. He accepted east Asiatic origins for American man. More important, he insisted upon the independence of the art forms from Old World influences posterior to the basic Ice Age migrations. He regarded ancient American art much as I shall do here as an autonomous and independent development, but lacking great antiquity. These principles occurred to Kugler solely from the study of those works of art which he knew in Germany from plates published with the works of d'Orbigny, Humboldt, Kingsborough, Dupaix, Nebel, and Waldeck. He deduced that American Indian art was 'thoroughly different from the artistic achievements of all other known peoples of the earth'. This proposition led him to assert autonomous and independent development as the necessary conclusion. Modern anthropological theory, to be sure, owes nothing to Kugler, whose work has had little influence outside the history of art. But it is of real interest that a specialist's judgement of forms in art expressed about 1840 anticipated the independent conclusions of the members of another discipline in a much later generation.

In other respects Kugler was less adventurous. His taste for neo-Classic correctness and severity, then already old-fashioned but still characteristic of his generation, kept him from enjoying the expressive power of Mexican sculpture. After Kugler few historians of art in the nineteenth century returned to the subject; one of the rare exceptions was Viollet-le-Duc, who hurriedly studied the rationale of the Maya ruins reported by Desiré Charnay.<sup>20</sup>

In retrospect, historians of art were very slow in turning to the study of American antiquity. Political reasons may be the explanation. Twentieth-century sensibility, as a quest for expressive power independently of representation, was at first channelled by the political geography of nineteenth-century colonial expansion in its search for non-European sources of inspiration.<sup>21</sup> Africa and Oceania, as the colonial empires of France, Germany, and Britain, yielded the first great ethnographical collections, and it was they that stimulated Gauguin and Munch, Braque and Picasso. The Latin American peoples, who attained independence from Spain before the formation of the European colonial empires, never contributed from their rich resources to these ethnographical collections. In addition, the materials of American archaeology, although rich in 'primitive' suggestions, also include representational styles of a degree of verism that made them like Egyptian or Minoan archaeology, unsuitable for formal experiments in search of great intensity of expression.

The art historians' adaptation to these contrasting values in American archaeology is well documented. In 1842 Kugler correctly noted the Aztec sculptor's search for the 'inner meaning of organically animated form', and his command of the 'expressions of

the life of the soul'. But Kugler was ill at ease with the 'deformed proportions', the 'excessive symbolic ornament', the 'architectonic conventions' of Aztec sculpture, with its 'gloomy, arbitrary, and adventurously synthetic fantasy'. Like Waldeck, who claimed to be Jacques-Louis David's pupil, Kugler preferred the 'lively sense for nature, excellent musculature, slender forms, and soft motions' of Maya sculpture at Palenque.

Nearly sixty years later Karl Woermann, writing of American archaeology in 1900, was still unable to resolve the same conflict in judgement.<sup>22</sup> He wrote that American Indian sculptors, in spite of their wide technical command, lacked 'full understanding of the forms of representation', and suffered from 'incompletion and a barbarian overloading, although they were able to make their forms occupy space with unmatched monumentality'. In other words, the nineteenth-century critic could not bring himself to credit the expressive strength of American Indian art, nor again could he rank it high by Occidental standards of verisimilitude. Faithful representation was for these critics the touchstone of value, and the representation to which they were accustomed is uncommon in ancient American art.

Hence it was not until about 1910 that critics appeared who were able to penetrate the expressive devices of the figural art of ancient America, and to comprehend the spatial purpose of the architecture. These new students, among whom one of the earliest was H. J. Spinden, belonged to a generation already familiar with non-representational expression. In Spinden's case the training of an anthropologist was united with the insight of a gifted critic, who had been influenced by 'technicist' interpretations of primitive art from Semper to Haddon.<sup>23</sup> Spinden, however, was mainly an anthropologist concerned with culture, and his work used Maya art to extract information about the civilization. It remained for others, such as Pál Kelemen and José Pijoan,<sup>24</sup> to consider ancient American art for its own sake rather than as a documentary file on cultural themes.

The task is a difficult one. My volume, like others before it, falls far short of the avowed aim, to explain the principal archaeological objects as works of art. The term itself, 'work of art', is already a qualitative ranking, as it separates products of aesthetic intention from products for use. After selecting the works for discussion, we must say how, when, and by whom they were made. Then we must translate their meaning from visual into verbal terms. Finally we have to extract from the historical series of works of art those 'deviational' meanings that were not apparent to the people themselves who made and used the objects, and which appear only to the historian after the series is completed.

In making my selection I have retained the traditional classification by architecture, sculpture, and painting, in spite of appearing to omit many crafts. This difficulty is only verbal; for all crafts can be treated as parts of sculpture or painting. Textiles are paintings on flexible supports. Most pottery vessels are sculptural forms, and some are paintings on curved surfaces.

A more urgent objection is that the threefold division into architecture, sculpture, and painting reasserts the ancient distinction between 'fine' and 'useful' arts in relation to civilizations whose entire artistic production consists of objects for use. In this context,

the gigantic European literature of right academic practice is bereft of meaning. Arts of representation that recognize no convention of European one-point perspective cannot be bound by academic legislation on the 'rightness' of the Albertian construction. Sculpture that is only occasionally concerned with the human body cannot be criticized by Greco-Roman canons of proportion. An architecture to which the column is an occasional relief in the rhythm of voids and solids cannot be contained by regulations derived from Vitruvius and Vignola.

What then could be my guide in the selection of some objects and the rejection of others from this text? The valuation of whole cultures yields no criterion; for when cultures are ranked, the ranking does not apply to arts: when arts are ranked, the ranking does not apply to cultures. To present knowledge the connexion between excellent art and its necessary or adequate social conditions is completely and entirely unexplained. The historian can occasionally point to favouring circumstances, but he cannot identify them as sufficient causes. In short, we know of no type of society in which excellent art inevitably and necessarily appears.

When a building or an object is discussed and illustrated here, it is because of a peculiar perceptual quality. Unlike physical or chemical properties, this perceptual quality cannot be measured. Its presence is unmistakable. It is altogether absent from no artifact. Works of art display it more than utilitarian objects. It is present in nature wherever humans have been active, as in pure-bred animals, and in selected landscapes. It appears in scenes and things called beautiful as well as in those that arouse disgust.

It is a special intricacy in several dimensions: technical, symbolic, and individual. In the technical dimension, we are aware, in the presence of such objects, of a long cumulative tradition of stock forms and craft learning, in which the maker's every gesture arises from many generations of experimentation and selection. In the symbolic dimension, we are presented with a cluster of meanings infinitely more complex than the single functional meaning that attaches to a tool or to a bit of information. In the individual or personal dimension we become aware of the maker's sensibility. Through it the technical tradition and the symbolic matter have filtered, undergoing alterations leading to a unique expression.<sup>25</sup>

The net we are using has a mesh that lets the useful forms of material culture pass through it, retaining only those which the field archaeologist calls 'fancy' forms. His net, on the other hand, best retains tools and instruments. It lets works of art pass through after only their useful message has been read. Thus we are working over the leavings of the field archaeologist, like the prospectors who find rare minerals in the tailings of an earlier mine.

The true tool has only one function, and only one meaning. Many tools of course come under close scrutiny as works of art, because of their high degree of useless elaboration. Conversely, many objects of ornamental purpose have a residue of functional form. I have therefore included under the rubric of ornamental forms large numbers of utilitarian objects. Their elegance and symbolic value are self-evident. In the history of European art they would be called 'decorative arts': here they are taken closer to the core of aesthetic activity, and classed as modes of sculpture and painting. The ordinary

Some comment is in order on the conception of meaning used in this volume. Iconography, which is the study of 'the subject matter or meaning of works of art', 26 embraces three kinds of meaning: natural subject matter (representations of objects, of events, of expressions); conventional subject matter (representations of concepts, stories, and allegories); and intrinsic meaning (the work of art as cultural symptom or as revealing essential tendencies of the human mind). All works of art possess intrinsic meaning, even when they lack both conventional and natural meanings. Much textile art, for instance, represents nothing, yet it is symptomatic of its culture by virtue of intrinsic meaning alone. In ancient American art, intrinsic meaning is often more easily established than either conventional or natural meanings (pp. 262, 287).

Our greatest difficulties arise with conventional meanings, especially when we are dealing with pre-literate societies. The key to conventional meanings can come only from literary sources; pictorial conventions can rarely be deciphered by examination of the pictorial materials alone. Literary sources for the understanding of ancient American civilizations are lacking for all societies other than those recorded by Spanish observers and by Indian survivors at the time of discovery and conquest. Hence we have intelligible and circumstantial literary sources only for Aztec civilization, for late Maya culture under Mexican influence, and for Andean society in its terminal phases. We have no auxiliary sources whatever to decipher Mochica art, or Classic Zapotec, or Nazca or Tiahuanaco styles of conventional meaning.

It is often erroneously supposed that intrinsic meaning cannot be known before natural and conventional meanings are established. In actual practice, however, we constantly make correct assessments of intrinsic meanings without knowing either the natural or the conventional meanings of the form under inspection. For example, J. L. Stephens correctly assessed an intrinsic meaning of Maya writing, as a system having no connexion with any other Old World writing, some fifty years before its partial decipherment by Förstemann and Goodman. And whenever one assigns an object without provenance to a specific time and place, it is in part on the strength of an intuition about intrinsic meaning. Thus we are obliged, like all previous students, to concentrate upon natural and intrinsic meanings. The galaxies of conventional meaning for the most part still lie beyond the range of our instruments of knowledge.

If the history of art were merely a matter of solving puzzles of date and authorship, and of explaining works of art, it would be only another antiquarian pursuit among innumerable varieties of gourmandizing over the past, along with philately and genealogy. The problem of knowledge itself arises here. The history of art is a historical discipline because the seriation of works of art permits one to transcend the knowledge of even the artists themselves about their own work. Despite all the imperfections of his sources, the modern student of the sculpture of Phidias knows many things about Phidias that neither Phidias nor his contemporaries could know. He who knows the envelope surrounding the events of antiquity, can deduce from this awareness of durational meaning such things as the relative age of any form in a given class of forms, and the significance of an individual artist in a connected series of artists.

In American antiquity many groups of monuments and objects still require seriation, although some anthropological archaeologists have achieved great precision with ceramic stratigraphy and the quantitative analysis of stylistic traits.27 When it is unlikely that field excavations can solve the problem because the sites are too disturbed, these undifferentiated groups of objects can still be subjected to a stylistic analysis of an arthistorical type. Assuming that early and late positions in a series correspond to distinct and definable formal qualities,28 we can provisionally put the objects in series, as with colossal Olmec stone heads (p. 67), west Mexican clay sculpture (p. 108), or Toltec Maya buildings (p. 185). These approximations, however coarse and inexact, are still better than no sequence; for it is upon sequence that our awareness of artistic problems must ultimately rest. The chain of solutions discloses the problem. From many such disclosures we can derive an idea of the guiding configurations of behaviour at different times and places. The labour ahead requires selection, explanation, and disclosures of objects which are usually treated only as sources of practical information. Here it is fitting also to consider them as experiences corresponding to the aesthetic function in human affairs.

The term 'function' needs explanation. In Western thought the concept derives from Kant's dissection of experience, whence we have the idea of the 'pure' artist, the 'pure' religious, the 'pure' politician, and all the special vocations of the modern age. To be contrasted with such specialized isolates is the relative unity of the functions of the soul elsewhere than in the modern Occident and previous to it: <sup>29</sup> a whole in which religious, ethical, aesthetic, and social functions were all experienced as a seamless entity and conveyed in a single system of metaphors.

Earlier men could not readily divide the unity of the functions. The men of today cannot bring them back together; for we are required to distinguish the functions by the society that has arisen upon their separation. The separation itself permits us to establish an aesthetic function for every experience. Every experience has a sense; it is rationalized; it is laden with emotion. Aesthetic behaviour is concerned with emotional states, and it marks the production of every artifact, however simple or useful it may be. Hence an aesthetic function is present in every human product, and, by extension, in all cultural behaviour.

This extension of an artistic franchise to all artifacts allows a resolution of one great difficulty. In anthropological studies aesthetic value is held to evolve by gradual articulation from the primitive unity of experience along a gradient leading to art as we understand it today. From this evolutionist point of view, aesthetic values are lacking in primitive societies. Because all value is regarded as having biological origins, what looks like art in primitive life is believed to have been motivated by utilitarian needs, or by fear, sex, or other 'biological drives'. Especially favoured among social scientists is the theory that art derives from play impulses, and that it serves as a training activity in the struggle for existence.<sup>30</sup>

The opposing point of view is idealist. Here it is a postulate that comprehension of another being is possible only under conditions of similarity between object and subject. Hence we may not restrict the understanding of primitive persons whom we pretend to

comprehend, to values only of biological significance, but we must concede them innate values of aesthetic and intellectual bearing essentially akin to our own.<sup>31</sup> Both primitive persons and their modern students share in aesthetic behaviour. It is a condition of psychic equilibrium between subject and object. The world is known through emotional states rather than by rational constructs. Natural phenomena are apprehended as states of feeling rather than as events outside consciousness. Unlike the evolutionist, the apriorist apprehends a nucleus of aesthetic value that is the same in all arts: always essential; always definable; always resistant to materialist reductions of its scope. He thus escapes the embarrassment of the evolutionist who, when confronted with early artifacts that look like art, must explain them as non-art.

This conception of the continuum of art can be articulated by the idea of configurations better than by the evolutionist's conception of stages. 'Style' rather than 'stage' is our key to the differences between artistic groupings. Cultural configurations can be charted and measured by the phenomenon of style.<sup>32</sup> Different configurations co-exist and succeed one another: each has its own content and its own developmental pattern.

Configurationism, however, is an incomplete and perplexing concept. It is grounded in Gestalt psychology. It transforms the problems into postulates, and it elevates the axioms to the rank of explanatory principles.<sup>33</sup> Confronted with the choice between idealist and materialist interpretations, the student of aesthetic behaviour must of necessity prefer configurationism to the arbitrary stages of evolutionist thought; for in the latter, aesthetic behaviour loses autonomy and becomes only the mechanical reflection of other processes. The difference between them justifies once again this book's preference of diachronous to synchronous discussion (p. 3).

## THE PLACE OF THE ARTIST

Works of art are produced by individual persons whose unique sensibilities transform the stream of tradition. Configurations and evolutionary sequences – which are ways of classing these products in the absence of documented artistic personalities – differ as to scale. A stylistic configuration occupies less time than an evolutionary sequence. When we are confronted with a total lack of biographical information, as in the history of ancient American art, the gaps can be closed by overlooking them, and by choosing the broadest possible chronological scale. Hence the stages of an evolutionist view of the American past provide our best scaffolding for a reconstruction of the probable position of the artist in ancient society.

A few general observations hold good regardless of stage or period. In the first place, artistic change in these societies probably resembles those slow processes of linguistic 'drift' which escape the notice of the participants, more than it resembles the self-conscious dedication to change affected by European artists since the Renaissance. The architect, the painter, and the sculptor were given fewer occasions for invention than their modern colleagues because of small populations and because of the gigantic expenditures of time required by Stone Age technology. A clear conception of the in-

dividual as the unit in a social process was probably lacking. Each generation added its ritual obedience to the 'cake of custom' that evens out the rate of change in small and isolated societies. As these layers of tradition became more and more weighty, they exceeded the capacity of the individual to transform them.

Hence the American past seems stagnant and sluggish, with Neolithic durations altogether different from the staccato transformations of European time. In such a slowed-down temporal perspective the position of the artist must have been far less distinct than we are accustomed to consider it. The occasions for artistic production were distributed more evenly through the entire society than in the specialized crafts and guilds of European civilization. Each household was a producing unit for many manufactures. Each village tended because of environmental differences towards traditional specialities like those which survive today in parts of Guatemala and Peru.

## The Early Hunters

What was the artist's position among the Pleistocene hunters in the final phases of continental glaciation? As in Europe, we know of bone and wood implements and pressure-flaked stones. Hides and skins were dressed; rude shelters must have been built, and a body of useful empirical knowledge had already been acquired and transmitted during hundreds of generations. Two rude works of art in America are assigned to these times: an elephant tooth from Tepexpan in the Valley of Mexico, carved as a miniature human foot;<sup>34</sup> and the sacrum of an extinct species of llama, carved to represent the face of a coyote, and found at Tequixquiac near Mexico City in 1870 and now lost.<sup>35</sup>

The lives of such hunter-artists were exposed to unending dangers, for which the proper psychological preparation was as important as food. Ritual and magic provided this preparation. Those energies which we invest in recreation and contemplation were spent by early men upon exercises that keyed the faculties to the tension needed for successful hunting. In the round of exposure to danger, recuperation, and psychic preparation for renewed dangers, the short nomadic life of the prehistoric huntsman passed. His ritual preparation probably included rhythmic sounds and dancing. In these arts of filling time with significant action, the body itself is the material, worked by aesthetic intention into fugitive figures that leave no permanent record. Such rituals imitated the behaviour of the hunted animal, and the dancer himself reviewed his own motions, discarding wasted efforts, inventing more efficient sequences, and refining his craft by mimesis. These moments of detached mimicry, away from danger and performed in recollection, border upon aesthetic contemplation.

# Early Villagers

A drier climate closed the Pleistocene epoch, when the large grass-eating animals died out with the disappearance of pluvial vegetation. Early man then turned to small game and to the exploitation of drought-resisting plants. During these five thousand years before the emergence of urban societies in the first millennium A.D., plants and animals

were domesticated and village life became the normal mode of human congregation. Among Pleistocene hunters all the forms of activity were aimed at the destruction of animals. But among early farmers the household animal is fed and the plant is tended. Man played the part of a force set over nature instead of against it.

Unlike the hunters, who wandered through a succession of virgin environments, the early villagers gradually surrounded themselves with artifacts of their own making. This accumulation of things channelled the tradition into divergent patterns. In one village bulbous water vessels of fired clay might serve as fertility symbols, while another nearby village might satisfy the same symbolic requirement with effigy vessels. Early commerce would offer the artisans further choices requiring aesthetic decisions. At the same time the increasing accumulations of man-made things formed a historical record attesting the tradition and conditioning present choices.

With the village cushioning its dwellers from the hard pressures of the environment, men could begin to explore the 'useless' items in their surroundings. This attitude of contemplative freedom opened a new domain of inventive behaviour entirely separated from the struggle to survive. Under village life the earlier rigorous selection and reduction of human temperaments to a single hunting standard was no longer necessary. The spectrum of temperaments from melancholy and phlegmatic through sanguine and choleric gradations could all survive under the easy vegetative routine of early agricultural existence.

The professional exercise of the fundamental crafts of the potter, weaver, builder, and metalsmith in turn may have reinforced the separation of the temperaments, calling upon patient and withdrawn souls for textile invention, and upon gregarious and commanding persons for builders, and so on through the full range of village arts. The exact history of the earliest steps in any traditional craft will never be known; for we cannot learn when and where clay was first scooped into hollow shapes, or reeds were first tied together. Certainly these things were done by many men in many places. And among the first men temperamental differences of a genotypic order must have impelled them rapidly to different specializations.

Beyond a certain moment the self-sufficient isolation of the earliest villages could not continue. Artifacts create needs, and when these needs have been satisfied, any excess can be traded to neighbours. But early commerce provoked changes that ultimately wrecked the primitive autarchy of village life. With wealth, obsolescence became a problem. An artifact creates needs not only for others like it, but eventually for improved versions of itself. The producer must eliminate some of the inherited equipment, if he is to continue to make new versions. Here is one among several explanations for the elaborate funeral gifts in many early village tombs. Piety was of course the accepted motive, but a great additional advantage was gained in allowing the survivors to renew their household tools and ornaments. Village wealth was also dedicated to the temple, to the 'household of the god', much as in the ancient Mediterranean lands, as a clearing-house for all the intricate social problems of the continuing production of wealth. The result in the end was a priesthood. This new social class had a special interest in the enlargement of village society in the direction of theocracy, the priestly state.

## The Theocracies

The effects of priestly rule upon artistic activity were radical during the first millennium A.D. The temple corporation represented a dual order of being, whereby events in this world reflect events in another world of supernatural forces, enabling the men living by the law of the temple to mark a frontier between civilization and barbarism in a new great community. It expanded by teaching and example conveyed in a new class of works of art. Hence one condition for the spread of the new order was a clear difference between early village styles and the expressions of the temple law. The new symbolic art avoided everyday secular experience, and it suggested terror or awe at first by the monstrous shapes of other-worldly forces. The earlier village art was looked upon as rustic, retarded, and devoid of learning or morality.

Gradually the stiff code of the early symbolic system softened, with the repetitious utterances of many generations, into gentler forms enriched by a renewed study of nature. In each region a different variant of this classic style took form, but the earlier tradition of household crafts yielded to the professional artist, who was maintained by the community to give all his time to the production of imposing works of art. The corollary of the professional craftsman is the passive spectator. Here the cleft between works of art and 'utility wares' first opened deeply. Here also the work of art became a social tool, useful in the concentration of public power through widely shared symbols.

## The Terminal Stages

Towards the end of the first millennium A.D., signs of violence, crisis, and rupture appear in the archaeological record at all the main centres of civilization. In each region the succeeding period is characterized by the emergence of warrior aristocracies. These new states were the result of the intrusion of nomadic peoples, who succeeded in taking control from the ancient theocratic corporations.<sup>36</sup> The Toltec, Mixtec, and Chimu states all exemplify this replacement of theocracy by military aristocracy. The process was probably a double one. The new barbarian masters of the old societies brought with them as their own heritage many archaic traits of behaviour. On the other hand the destruction of priestly rule brought to the surface many submerged expressions of the ancient stratum of early village society, long repressed under the burden of hierarchic government. Large cities, differing from the earlier ritual concourses for dispersed farmers, arose in the period after 1200.

The simultaneous appearance of 'empires' after 1300, both in Mesoamerica and in the central Andes, is not easy to explain. Possibly they resulted from vis a tergo, from the compelling power of antecedent circumstances. The empire was a new society large enough to absorb the useless warfare of the petty aristocracies. It also afforded possibilities for public works and the colonization of new lands. On the whole, warfare rather than art produced the empires.

The craftsman became more and more a professional specialist of decreasing status in a society dominated by the warrior class. His services were necessary but his rewards

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diminished. His loss of status and his subordination to a military class are apparent in the declining quality of the workmanship. There are important exceptions, among which Aztec sculpture is the most notable.

In review, the place of the artist in ancient America can perhaps be made clear by a simile taken from weaving. Civilization is like a cloth in progress on the loom. The various institutional functions, political, economic, and military, are like the warp strung from end to end of the projected fabric. They are made of the same fibre as the weft thread, which is like the continuous production of art, binding the warp into a strong weave with a figured pattern. In America the design at first was carried by the weft alone, but near the end it was carried more and more by the warp.

## PART ONE

# THE MEXICAN CIVILIZATIONS

#### CHAPTER 2

## THE EARLY VALLEY OF MEXICO

ABOUT 2500 years ago the fertile adjoining valleys of Mexico, Puebla, Cuernavaca, and Toluca were already a metropolitan nucleus for the entire northern continent. Other regions in Oaxaca, on the southern Gulf Coast, and in Maya territory were in touch with central Mexico, giving and receiving each in its time. The dominant centre of ancient urban life eventually became the three high intermontane plateau valleys of central southern Mexico, in the quadrant bounded by Tula, Xochicalco, Cholula, and Malinalco. Both Tula and Malinalco bordered the unsettled lands of nomad tribes. Cholula marks a frontier with sedentary peoples of different traditions to the south and east. Xochicalco is an intrusive enclave of Maya style.

Within this quadrant the ancient inhabitants, stimulated by fertile soil, by temperate climate, and by the continual renewal of population through immigration from less favoured regions, changed from nomadic big game hunting (c. 9000 B.C.) to life in early agricultural villages (3000–1000 B.C.). Such settlements yielded about 500 B.C. to urban societies not unlike those of ancient Mesopotamia, Egypt, Pakistan, or China.¹ Other regions of America transcended central Mexico in elaborating portions of the fabric of its civilization, but none shows a cultural record of such duration, continuity, or involvement with the rest of ancient America. From central Mexico, styles of art were carried to the south-eastern and south-western United States; to the Maya region; and probably even to the west coast of northern South America.² No other region of ancient America exerted so continual or so expansive an influence upon its neighbours both near and far.

### FORMATIVE: 1500-500 B.C.

The earliest dated example of monumental architecture in central Mexico is the circular platform of Cuicuilco (Figure 1) in the Pedregal, near the new University of Mexico. Its four conical stages of large stones laid in clay originally had a diameter of 135 m. (440 feet) and they rose about 20 m. (65 feet). About 500 B.C.<sup>3</sup> a sheet of lava enfolded the platform together with the adjoining burial grounds, which have yielded early village manufactures of pottery and clay figurines. The construction of the platform shows two campaigns: two lower stages were built with an altar on top, which was later embedded in two smaller stages. On the east—west diameter a ramp and three short

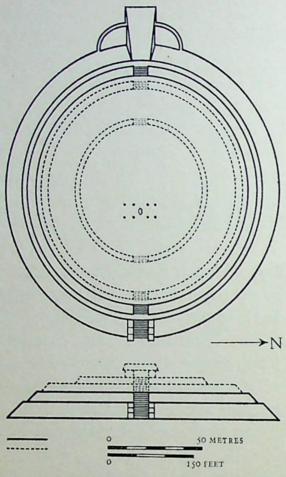


Figure 1. Cuicuilco, pyramid, before 500 B.C. Plan and section

flights of stairs led to the uppermost platform from the west, and on the east four flights descended in a striking anticipation of later temple stairs both in Mexico and in the Maya region. Red pigment (cinnabar) on the altar suggests mortuary or sacrificial use. The circular form recurs in the Huasteca region and at Cempoala on the Gulf Coast, both early and late, and again in Toltec, Tarascan, Chichimec, and Aztec sites after A.D. 1000, perhaps as an archaism and in association with the cult of Quetzalcoatl.

Cuicuilco was built in the terminal stage of early village civilization in the Valley of Mexico, some centuries before 500 B.C. Its chronological position is given not by radiocarbon dating alone, but also by the style of the clay figurines and pottery in the associated burials. Small clay figurines representing humans, animals, and birds occur throughout Middle America, beginning in the early villages, and continuing until after the Spanish Conquest. In some western

provinces the tribespeople never made any other sculpture. Valley-of-Mexico figurines are so abundant that the archaeological history of the region is based upon their classification (Plate 1 and Figure 7). Their function is unknown, and complete specimens with bodies are rare. Seated and standing female figures predominate, usually composed of three parts: 7 the stem (or neck); the pellet (or face) pressed upon the stem; and the frame (representing hair or a head-dress) covering the joint between stem and face. Features were added by buttons and fillets of clay, and by incision and punching. Features rendered by fillets and buttons are earlier than features rendered by modelling and incision (as at Cuicuilco). Paint added after firing, or a polished slip of fine clay, completed the figurine.

The finest examples, some centuries earlier than Cuicuilco, have been uncovered at Tlatilco near Tacuba, west of Mexico City. Affinities with the Olmec 'baby-face' style (Plate 28B) of the southern Gulf Coast (p. 68) and with the Chavín jaguar stylizations of Peru support the conception, first advanced by H. J. Spinden, of an 'archaic continuum' in America, a name recently modernized as the 'inter-American formative horizon'. Many Tlatilco figurines represent steatopygous women (Plate 1), 11 sometimes with two heads, or with two heads sharing three eyes, wearing frivolous skirts or ornate leggings. The swollen thighs taper to pointed feet. Unlike the steatopygous figure of central Europe, the Tlatilco examples seem to dance and caper. The curves of the thigh end in tiny waists, and there are abbreviated dancers' arms, held in pirouette position.

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The proto-history of Mexican painting has been reconstructed in the ceramic wares of the central zone, at the key sites of El Arbolillo, Zacatenco, and Ticoman. Vaillant <sup>12</sup> determined the sequence of development for pottery decoration. The red, black, and white clays of the Valley of Mexico were tempered with crystalline sand and slipped with a wash of the same clay as the paste. Composite rather than simple vessel forms were favoured at all times. Controlled firing allowed the preparation of black, white, red, and orange wares. The decorative experiments followed one another roughly as follows. (1) Incision before firing, in geometric style on black-ware. White paint designs on red slip (abandoned in 2). (2) Grooving, increased range of paint colours, red designs painted on white slips. (3) Incision with cursive forms after firing. Incised outlines surrounding painted areas. Red and white paint on yellow ground. (4) Negative painting, by a lost-wax method related to textile technology. Stucco finish applied after firing and painted.<sup>13</sup>

## TEOTIHUACÁN: 300 B.C. - A.D. 900

Teotihuacán (Figure 2),<sup>14</sup> Cholula, and Xochicalco, each with its own traditions and affiliations, were the principal urban centres of the Classic epoch. Xochicalco (Figure 9) was in many respects a transplantation from Classic Maya civilization of a later epoch than Teotihuacán. Cholula, on the other hand, has had the longest continuous history of any central Mexican site, flourishing from Formative times without interruption to the present, and appearing during the Classic era (Figure 6) as a provincial version of Teotihuacán.

The discovery of architecture in the Teotihuacán style at Kaminaljuyú (Figures 3B and 74) in the Guatemala highlands, 15 associated with Maya remains of Early Classic date, and dated by radiocarbon before A.D. 500, justifies treating Teotihuacán proper as the dominant Middle American site of the first half of the Classic era. Xochicalco (Figure 9), because of its stylistic resemblances to such Classic Maya sites as Uaxactún, Copán, and Piedras Negras, reverses the relationship between central Mexico and the Classic Maya region in favour of Maya ascendancy c. A.D. 500–900.

The structural traits that distinguish Teotihuacán from Formative building are the use of burnt-lime plaster surfacing (never as a bond between stones) and the cantilevered panels jutting out from the inclined talus at the platform base (Figure 4). In respect of formal organization, the Teotihuacán style differs from previous architecture by grandiloquent proportions using straight axes and rectangular platforms.

# Chronology

The history of Teotihuacán, though fixed neither at the beginning nor at the end, when great fires burned out the timbers and glazed the clay walls, can be divided into early, middle, and late stages. The early stage (I) antedates the pyramids. Their construction (II) occurred from the first to third centuries A.D. Then, c. 400–700, the outlying suburbs were built (III). The destruction by fire and abandonment may be dated before

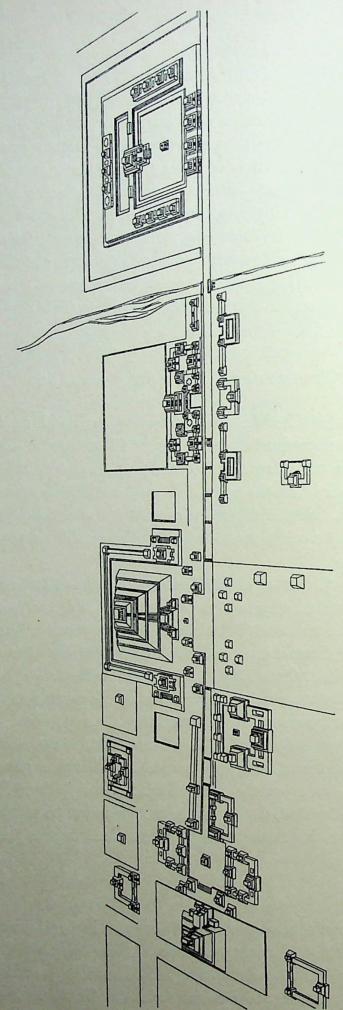


Figure 2. Teotihuacán, the temples, c. 600

#### THE EARLY VALLEY OF MEXICO

700. The transplanted settlements (IV) on the west shore of Lake Texcoco flourished thereafter.

The eastern or Sun Pyramid (Figure 2) is the largest and oldest structure at Teotihuacán. Like the circular platform at Cuicuilco, it is made of horizontal layers of clay faced with unshaped stones. All the sherds and figurines in its fill are of Late Formative dates. Like many later central Mexican platforms, the eastern pyramid faces 17 degrees north of west, so that the sun sets on axis with the edifice upon the day of zenith passage. The Sun Pyramid governs the axial arrangement of all other buildings at the site. For several centuries early in its history Teotihuacán probably consisted only of this pyramid and a few adjoining platforms.

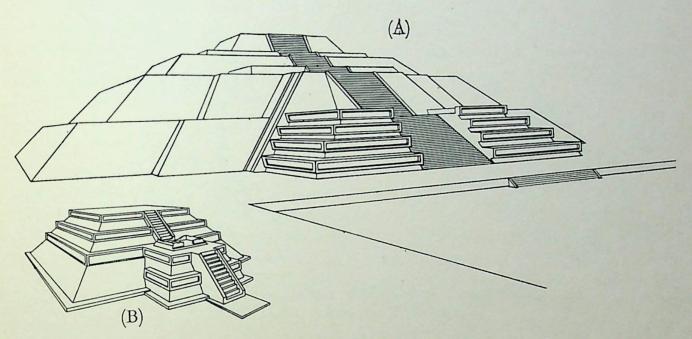


Figure 3 (A). Teotihuacán, Pyramid of the Moon, c. 300. Perspective diagram (B). Kaminaljuyu, Mound B4, fourth century. Perspective diagram

Later on the site was enlarged by the addition of the Moon Pyramid, north of the older structure, and the south pyramid ('Temple of Quetzalcoatl'). These two edifices were built by a new and more stable method of construction before c. A.D. 300. The core is made of piers built of slabs of tufa (tepetate), with shafts left between the piers, into which loose earth and rock were dumped (Figure 3A). On the terraces, fin walls held the sloping talus in place. After the lattice skeleton of piers and fin walls had been built, the filling out of the mass with unshaped earth proceeded more rapidly than by the earlier method of layered accumulation.

These three principal pyramids define the Miccaotli ('Road of the Dead') as a north-south roadway, 40 m. (130 feet) wide and about a mile and a half long, lined on both sides by hundreds of small platforms and by clusters or files of chambered buildings. At least two older levels of construction underlie the present top layer of ruined edifices. Their depth is greatest at the southern end of the roadway, so that the site, which gradually drops 100 feet, is today much flatter than it was at the beginning of construction.

## PART ONE: THE MEXICAN CIVILIZATIONS

The later phases of the architectural history of Teotihuacán include two principal types of construction. The first consists of dwellings arranged upon platforms to surround square or rectangular depressed courtyards. The second has many ceremonial platforms of low elevation and great extent, with the customary talus-and-tablero profiles, but devoid of the sculptural decoration that characterized the middle period. The principal example is the Ciudadela – a hollow-rectangle platform surrounding the southern pyramid (Plates 2 and 3 and Figure 4). This older edifice was encased in an outer shell of austere talus-and-tablero profiles, completely concealing the older sculpture (Plate 3). Both the dwellings and the talus-and-tablero platforms were stuccoed and painted with figural scenes.

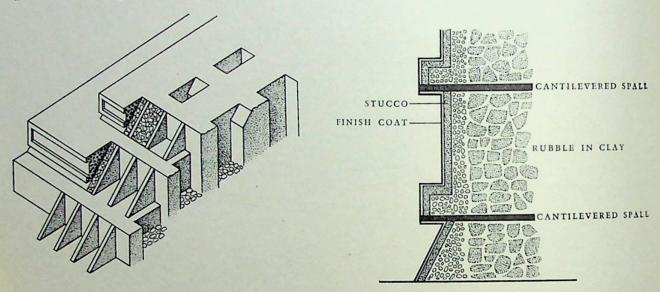


Figure 4. Teotihuacán, Ciudadela, inner core of central platform, before 500.

Diagram of assembly and section of tablero

Thus the early period was marked by gigantic construction; after A.D. 300 great sculptural friezes, as at the citadel, were carved; and the centuries before 700 saw the triumph of mural painting. Painted exterior walls had been common since the earliest centuries at Teotihuacán, when decoration was confined to geometric meanders, bands, and chequerboards in red, yellow, grey, and green, often applied al fresco to the wet plaster. In the middle period, ideographic signs and large forms representing water, seashells, and marine plants were painted in colours on dry plaster with black outlines. In the last period, scenes were painted with many small personages, with roads, buildings, animals, and symbolic conventions for speech or song, as well as for religious sacrifices and for the other world (Plates 6 and 7).<sup>20</sup>

In other words, each successive century at Teotihuacán witnessed a more and more prodigal consumption of burnt-lime products for cement-like floors, stuccoed walls, and the finely plastered surfaces required for mural painting. The technique of burning limestone was probably introduced from Yucatán and Guatemala, where calcareous rocks and tropical woods abounded.<sup>21</sup> In Mexico the burning of the forest cover for lime certainly contributed to the desiccation of the climate.<sup>22</sup> The acres of plastered floor and wall surface at Teotihuacán were contributory causes to the climatic catastrophe reflected by the murals. The paintings describe the joys of water with a prolixity born

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of anxiety. The abandonment of the site c. A.D. 900 was final. No great centre of civilization arose again in its neighbourhood, for its ecological ruin was probably irreversible as early as A.D. 500–600, and today the countryside around Teotihuacán supports only a fraction of the great populations that erected the pyramids.

During its early history, Teotihuacán was not a city but a ceremonial centre for the periodic rituals of an agrarian calendar. The pyramids were built and used by farmers from widely dispersed villages.<sup>23</sup> For centuries there were few habitations at the ritual centre itself.<sup>24</sup> Eventually the priesthoods, as custodians and as masters of the ritual, assumed power. The wall paintings at Atetelco, Tetitla, Tepantitla (Plate 7), and Teopancalco, and among the dwellings in the ritual centre itself, mirror the power and affluence of a theocratic caste, who governed the scattered farming communities by means of calendrical rituals, and who probably became more and more numerous as the environment was impoverished by deforestation. Their rise to power is reflected, as elsewhere in ancient America, by the chambered dwellings which replaced the great pyramids in the building programme.

## Architecture

Our conception of architecture has been dominated for so long by the need for shelter, that we lack the sense of building as monumental form apart from shelter. As monumental form, architecture commemorates a valuable experience, distinguishing one space from others in an ample and durable edifice. It is not necessary to enclose rooms: it suffices, as in ancient America, to mark out a space by solid masses, or to inscribe the space with a system of lines and shapes. The fundamental modes of monumental architecture are therefore the precinct, the cairn, the path, and the hut. The precinct marks a memorable area; the cairn makes it visible from afar to many; the path signals a direction; and the hut shelters a sacred portion. From precinct to stadium is one typological series; from hut to cathedral, path to arcaded boulevard, and cairn to pyramid are others. The combinations of cairn, precinct, path, and hut yield all the possibilities of monumental form, not in terms of the solids alone, but also in terms of the space bathing the solids. The architects of ancient America were far more attentive to the spaces engendered among the elements than their European contemporaries, and they excelled all peoples in the composition of large and rhythmically ordered open volumes. Teotihuacán is the most regular and the largest of all ancient American ritual centres, with a coherent composition ordering the elements in an area 2½ km (1½ miles) long by 1 km (about ½ mile) in width (Figure 2). Tikal and Chichén Itza, the next in size, are less than half as big.25

A principal and original function of Teotihuacán was as a geomantic position to observe the relation of the earth to the sun, by the annual zenith setting (21 June) on axis with the largest pyramid. The orderly distribution of hundreds of smaller platforms along a roadway determined by the eastern or Sun Pyramid therefore obeys relationships of a cosmic order, and the spatial arrangement reflects the rhythm of the universe. The main axis of the principal pyramid intersects the roadway; a smaller pyramid

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blocks the north end of the road; and the south end has no monumental definition. The road ends without a destination. Thus the roadway connected nothing: it afforded axial order, without leading from one place to another. Each unit along the roadway is connected with the universe more than with its neighbours: the south court and the east pyramid face the setting sun; the north pyramid is alone in its direct axial position on the roadway.<sup>26</sup>

This isolation of the groups, apart from their common cosmic orientation, is stressed by the precincts surrounding each major unit. The necessary counterpart to the pyramid in open-volume composition is the precinct boundary, which defines scope, while the pyramid marks importance. The principal pyramids of Teotihuacán were built smaller as time passed: their precinct boundaries, however, became more imposing (Figure 2). At the east pyramid, a low U-shaped platform, open to the west, defines a moat-like enclosure at the base of the great square pyramid. The north pyramid is symmetrically flanked by two triangular groups of platforms on a cross-axis about half a mile long. The north precinct is further defined by a square courtyard formed of twenty-two platforms. The south pyramid, finally, occupies a closed oblong formed by a continuous primary platform (Plate 2), bearing fifteen square secondary platforms spaced about 80 feet apart. The oblong precinct (inner dimensions 270 by 235 m.; 295 by 255 yards) has a shallow rear court behind the pyramid, containing house groups. The front court (235 by 195 m.; 255 by 215 yards) was probably used for rituals of a calendrical nature.27 Its west side, entered by a stairway 30 m. (100 feet) wide, is lower than the north and south sides, where the primary platform is twice the height of the western platform.

The design is one of the most impressive open-volume compositions in the entire history of architecture. On this gigantic scale, the relation of all parts is clearly evident, and each member, though not immense, plays its full role in the concert of forms. The grandeur of the south court arises from its proportions and from the economy of its components, which vary only enough, as in the doubling of the north and south platforms, to animate the design, without obscuring its fundamental simplicity.

The whole assembly, with completely open approaches from all sides, lacks any trace of military defences. The precinct platforms surrounding the eastern and southern

pyramids are non-military, serving ritual rather than defensive needs.

The dwellings of Classic date scattered throughout the region also lack defensive arrangements. The group at Atetelco (or La Presa), south-west of the pyramids, is typical: surrounding a sunken oblong courtyard four stairways rise each to an edifice with a colonnaded porch of two piers (Figure 5).<sup>28</sup> At the open angles of this cruciform system small inner courts are formed, each flanked on two sides by second flights of stairs and by other prostyle chambers.

The temple platforms and the dwelling platforms use the same vocabulary of architectural forms. The differences between the two are differences of size and number more than of type. To account for this type, we need first to consider the nature of the pyramid in ancient American use. As in Mesopotamia and the Nile valley, where the first village civilizations arose on earthen platforms in the swampy flood-plains, the early central Mexican villages stood upon artificial mounds (tlateles) laboriously built

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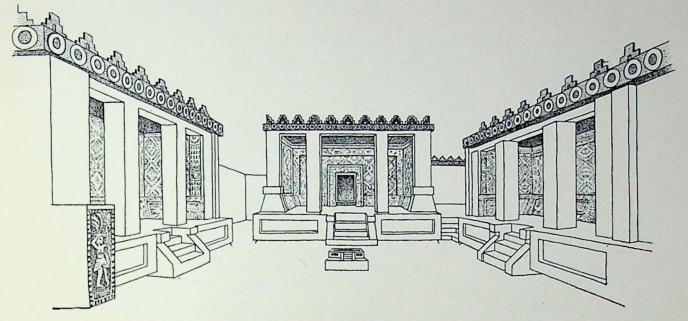
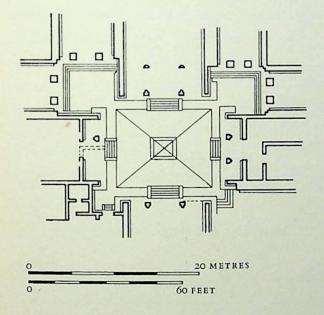


Figure 5. Atetelco, near Teotihuacán, dwelling group, c. 500. Elevation and plan



in the shallow waters of Lake Texcoco, of which modern survivals (chinampas) are still in use at Xochimilco.<sup>29</sup> Cuicuilco, Teotihuacán, and many other Middle American urban groups all inherited this ancient mode of securing dry footing by building a mound among the fertile shallow waters at the edge of a lake or in the flood-plains of a river. Every ancient building, whether domestic or religious, stands upon a platform of solid earth or masonry. Even on hilltop sites such as Monte Alban or Xochicalco, where the danger of flooding was not even a memory, the ancient compulsion to build a pedestal continued in full strength.

At Teotihuacán and related sites,<sup>30</sup> the platforms always have a sloping component, here called the talus, at the base of the platform (Figure 4). Cantilevered on stone slabs from the sloping talus face, a vertical panel, called the tablero, is framed by rectangular mouldings. Frequently the rear planes of both the tablero and the talus are decorated with sculpture or painting. The effect is that of a box hung upon a pyramid. The sloping talus is always shadowed by the tablero. From a distance, the tablero appears to float upon a cushion of shadow. The form is an unstable one, and when the cantilevering collapses the tableros crumble. The larger the tablero, the more unstable it is. The modern drawings of the Pyramids of the Sun and Moon, which show giant tableros, are improbable reconstructions.<sup>31</sup>

Indeed, the tablero profile may have been invented only in the middle period of Teotihuacán history (II), when the building of the great pyramids, which are like continuations of archaic architecture, had ceased. This hypothesis is supported by the

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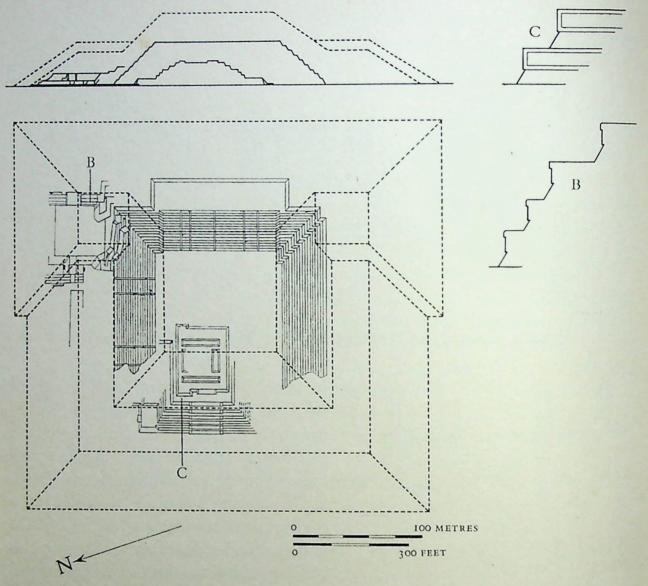


Figure 6. Cholula, main pyramid, c. 500. Section, plan, and tablero profile of nucleus

appearance of tablero profiles on the topmost stages of the archaic platform within the main pyramid at Cholula (Figure 6). The Cholula variant of the Teotihuacán form adds an extra inner moulding to the tablero frame. It is otherwise a faithful copy of the metropolitan fashion. The tablero is clearly a Classic addition to an early pyramid of rectangular plan facing the zenith setting of the sun. The next campaign of enlargement at Cholula has terraces of Toltec profile.

# Sculpture

Metal tools did not enter Middle America until long after the destruction and abandonment of Teotihuacán. The retarded technological character of American Indian civilization is doubly meaningful. The small populations 32 and the slow rate of change were conditioned by insignificant reserves of food for livestock, and by the lack of energy-saving inventions, such as wheels and draught animals. No trace of wheeled vehicles appears until after the Classic period, and then only in pottery toys, 33 and there were no beasts of burden at any time until the Spanish Conquest. On the other hand, the Ameri-

can peoples of antiquity explored and developed the ultimate possibilities of Stone Age technology. The mechanical learning of American Indians before A.D. 1000 is like that of Neolithic peoples on other continents. But the great difference is in the aesthetic quality of their achievements. American Indian sculpture, worked by Stone Age methods, is frequently of such formal and expressive complexity as to belong to the outstanding works of world art.

The techniques of stone-working were unchanged even by the introduction of metals after 1000. The tools were of stone and bone, used to fracture, crumble, abrade, incise, and pierce. At the quarry the outcrop was channelled and undercut with stone picks, mauls, celts, and hammers until wedges could be driven into the channels to break the block loose. Percussion fracture by hammering stone upon stone yielded the blank forms, followed by pressure fracture with tools of bone or horn, to secure detailed form by flaking the surface in small chips and splinters. The final finish was given by abrasion, with water and sand in scraping, grinding, sawing, and drilling operations. The saws were of stone, wood, bone, fibre, or rawhide. Tubular drills were made of bird-bones: such a drill, broken, was found in an onyx slab of Classic style from the Valley of Mexico.<sup>34</sup> The work of hollowing eyes or mouths was done by close-set drilling with tubular bits. The cores were then broken off and the cavity smoothed.

Teotihuacán sculpture is divided by function into three categories: architectural elements, funerary masks, and household figurines. The largest known example of figural sculpture was probably an architectural support: it is the colossal Water Goddess of basaltic lava (Plate 4), standing 3.19 m. (101 feet) high, and found in the courtyard at the foot of the north pyramid.35 Its pier-like forms suggest use as a caryatid, to support a wooden-beamed roof of the trabeated type common throughout Teotihuacán. The profiles approach cubical forms, and the body parts are all rendered in orthogonal projections upon the front plane, as in an engineer's drawing of the human figure. This technique of rendering is similar to that of the murals showing frontal ceremonial figures, such as the Tetitla panel of rain figures.36 The Water Goddess is generally thought to be an extremely early example of the Teotihuacán style,37 although its association with the Pyramid of the Moon should fix its date about the middle phase of the Classic period. The pectoral cavity for the insertion of a stone symbolic of the heart is the earliest known Mexican example of this convention.38 The identification as a Water Goddess (Aztec 'Chalchiuhtlicue') is supported only by the meander hems of the skirt and cape, which bear a repeating scroll that signifies liquid in the murals and vase-paintings. The oval-rimmed eyes and the protuberant mouth invite comparison with a group of funerary masks from Guerrero.39 Of a similar arbitrary reduction to geometric form is an alabaster ocelot-vessel (British Museum). On the sprawling animal's forepaws there is a glyph-form; the mane of the cat is likewise stylized into a serrated glyph-like form, and the muzzle is reduced to a linear glyphic convention (Plate 5A).

These figures both reflect a major tendency of this era in the archaeological history of central Mexico: to define and diffuse conventional forms that approach the status of a written system. That such a system was being elaborated cannot be doubted, but it was much less complete and more tentative than Maya writing of the same period. Art and

writing at Teotihuacán were still enmeshed in one another (Figure 8). The glyph-forms repeatedly approach being works of art, and their coherence as written communication is dubious. In respect to sculpture, the semantic limitation, which reduces plastic form to ideographic conventions without much freedom of choice for the designer, adds to the technical limitation of Neolithic methods of work. The sculptor's tools limited his effects, and his language of conventional signs likewise restricted the choices open to him, since he was obliged to make communications which in literate societies are carried much more economically by the written word.

The funerary masks of pottery and of semi-precious stone are thin slabs with marginal perforations for suspension on the outside of a mummy bundle (Plate 5B).40 The eyes and mouth were encrusted with coloured materials, and the facial planes also were painted or encrusted with geometric designs relating to the status of the dead wearer. Clay examples, painted with bright earth colours after firing, have been excavated at Teotihuacán.<sup>41</sup> The masks of fine stone (basalt, onyx, jadeite, obsidian) are such obvious works of art that all have been eagerly collected. The origin and the archaeological associations of these museum pieces are usually unknown. They command high prices, and there has long been an illicit trade in them, with many falsifications reaching the market. Their origin is usually given as central, southern, or eastern Mexico. The type is of indubitable Teotihuacán origin. Metropolitan and provincial styles of manufacture can be distinguished. As with funeral sculpture in general, the type probably changed more slowly than the forms associated with everyday life. The masks of Teotihuacán origin differ from those of later periods by the abstract ear flanges and the squarish proportions of the face, with chin and forehead boundaries treated as flat, parallel planes. This geometric conception of the human face is dictated by the technique of working the stone. The eyes, the nose, and the mouth are defined by six fundamental saw-cuts. One horizontal cut marks the parted lips. Two converging cuts define the triangle of nose and mouth. Two more horizontal cuts mark out each of the eyes. No example can be exactly dated, but a clear progression towards fleshy modelling, from more linear early features, can be noted. The geometric refinement of the proportions and the avoidance of portrait recall Greek archaic sculpture.

The clay figurines of Teotihuacán (Figure 7) are surely the popular background for the aristocratic and impersonal art of the funerary masks. Both emerge from the mil-

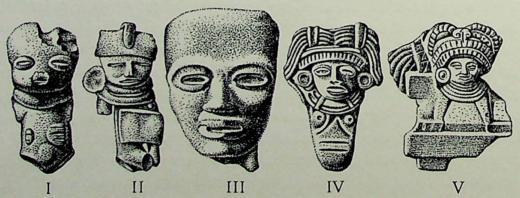


Figure 7. Pottery figurines from Teotihuacán, Periods I-V, c. 300 B.C.-A.D. 900. New York, American Museum of Natural History

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lennial background of early village figurines. Caso believes the figurines were ancestor images, venerated in each household. Others hold that they were images of the gods and symbols of fertility, put in the earth to ensure each year's crop. The earliest Teotihuacán figurines (I) are like those of Cuicuilco and Ticoman, triangular pinches of clay with coffee-bean eyes and incised mouths. They occur in the filling of the Sun Pyramid, coming probably from early village sites obliterated by the great ritual centre. In the next type (II), the squarish and flattened head shapes of the funerary masks make their first appearance.

The middle period (III) shows a technical change. Hand-made figurines were replaced by moulded heads of a few standard types, with delicately modelled features. One type is bald; <sup>42</sup> the others have more or less ornate hair-styles of tufted or conical shapes. The technical change probably coincided in time roughly with the new pillar-and-shaft system in the pyramids (Figure 4), with the appearance of the talus-and-panel profile for platforms, and the ample groups of dwellings surrounding the ritual centre at Tepantitla, Tlamimilolpa, Xolalpan, and Tetitla (Figure 5). The final phases of Teotihuacán figurines (IV and V) probably post-date the destruction of Teotihuacán proper; for these ornate and jointed specimens with elaborate costumes and complicated postures come from Atzcapotzalco and San Miguel Amantla on the west side of Lake Texcoco.

Certain habits of expression, peculiar to work in clay, were dominant in sculpture of the middle period. The reliefs of the terraces of the southern pyramid ('Quetzalcoatl') clearly show the technical primacy of fictile art, especially when these ductile forms are contrasted with the quarry-block shapes of the colossal Water Goddess. The southern pyramid was originally square in plan, with six stages rising to a burial platform. This probably bore a temple with stone walls and wood-and-thatch roofing. Only the central portions of four terraces flanking the west stair <sup>43</sup> have survived, by having been covered over in an enlargement of the third period, when the talus-and-panel terraces were painted red.

Middle-period relief sculpture was of finely fitted stone veneer (Plate 3). Over the veneer, painted plaster masked the joints. In the talus of each stage, low relief and feathered serpent forms face inward towards the stairs, with carved conch and pecten shells suggesting a watery environment in the undulant loops. Above the talus, a larger undulant and feathered rattlesnake occupies the tablero. Here, too, seashells are strewn over the rear plane. At three-metre (ten-foot) intervals large stone heads project at right angles from the tablero. The effect of carved clay decorations, as of terracotta revetments, is striking. The heads are of two kinds: a geometric head of cubical forms, perhaps a rain god (Tlaloc in the much later Aztec pantheon); and a feathered serpent. Their alternation upon the undulant serpent relief corresponds to the heraldic composition of Early Classic painting, both in the murals and in vase-painting.

# Painting

The exact chronological sequence of individual murals <sup>45</sup> is uncertain, but the assumption is warranted that painted wall decoration began early in the Classic period with geometric designs and banded schemes. In Late Classic times, heraldic friezes of repeating glyph-like forms became common, as well as processional files of profile figures engaged in ritual activities. During the same period, many conventions of landscape painting became fixed. In outlying sites large wall-paintings with ritually symbolic subject-matter and landscape scenes were the preferred mode of expression. Pottery painting, within obvious limitations, followed roughly the same pattern of development, without, however, attempting the elaborate landscape scenes of the late period.

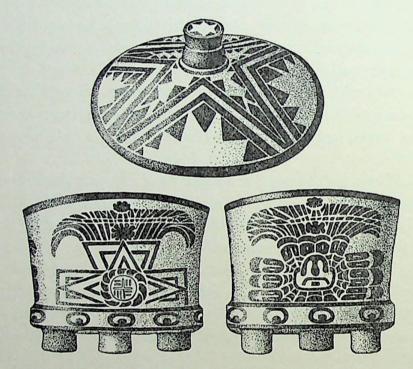


Figure 8. Cylindrical tripod vessel, Teotihuacán style, before 700

Demonstrably early are the murals painted upon a buried platform north-west of the little stream that separates the south pyramid from the other edifices. This platform belongs to a lower level, anciently filled and used as a foundation for the upper buildings. To these circumstances we owe the preservation of the painted surfaces. The tablero frame is painted with roundels representing green stones on a red ground. The tablero itself is painted with interlaced volutes like those of Classic Veracruz sculpture. An upper panel has heraldic repeating trifid pendants, probably representing nose-ornaments. This system of repeating symbols recurs at the south pyramid in the relief sculpture. It derives from the carved and painted decoration of coeval pottery, on cylindrical tripod shapes (Figure 8), where these repetitions were governed by the difficulty of seeing all the surface at once. The painter repeated the form often enough to be sure that the whole form would be visible from any angle of view.

Similarly related to pottery decoration are the murals of Teopancalco, a suburb of

#### THE EARLY VALLEY OF MEXICO

Teotihuacán. One altar is painted with costumed priests in profile with flowered speech-scrolls, symmetrically advancing upon a sun-like disk. These compositions of confronted figures also occur in paint applied after firing <sup>47</sup> on cylindrical tripod pottery.

At Tetitla, a suburb south-west of the ritual centre, a painted tablero framed by interlaced serpents contains frontal repeating rain-god figures, from whose outstretched hands flow streams of water in which various ideographs float. Another tablero displays jaguar and coyote figures in profile, as if upon the cylindrical walls of a pottery

vessel, in a wide frame of interlacing jaguar and coyote legs.

By type, the earliest known landscape painting is the sacrificial scene from the 'Temple of Agriculture' near the north pyramid, discovered in 1884 and known only by a copy of that time (Plate 6). A watery foreground in two scalloped zones of waves stretches across the bottom. The picture space closes at both sides with identical pyrelike forms, surrounded by scrolls of smoke and flame (?), heaped in front of colossal pier-statues similar to the Water Goddess described above. Between the statues, three uneven registers of small human figures mark the planes of landscape space in a conceptual perspective like that of Egyptian painting. The figures bear offerings. Some kneel or sit, others walk, and three priest-like figures in rich costumes and with animal head-dresses have scrolls of speech or song issuing from their mouths.

Of much freer and more animated composition is the mural, presumably later, at Tepantitla, east of the principal pyramid. The wall has two registers. In the upper half a water goddess, flanked by confronted priests, is the cleft source for two wavy floods filled with star-fish, jelly-fish, frogs, and seashells. A frame of interweaving serpent forms separates the more conventional upper register from the animated landscape below (Plate 7). From a mountain source two rivers emerge to flow in opposite directions through verdant fields to tree-bordered lakes. The space above this scene is filled with surging and dancing figurines, among butterflies and flowering trees. Caso interprets the scene as the souls of the blessed in the land of the Aztec rain god (Tlalocan).<sup>48</sup> The body movements are like those of the latest clay figurines of the Teotihuacán style. The linear conventions mingle direct observation with abstract ideographic signs. In the river-source, for instance, a figure is swimming in childish animation among the traditional serpent-body signs for flowing water.

The crowded symbolism of the art of Teotihuacán <sup>49</sup> bears many resemblances to the metaphorical system of the Nazca people of the south Andean coast (p. 289). It also contains about fifteen signs recurring often enough to suggest glyph-like use. They differ, however, from Maya glyphs by their rarity and isolation. Maya glyphs appear in long sequences to make statements of complex and indecipherable meaning. At Teotihuacán, two or three signs at most combine in ornamental bands or friezes. Certain signs seem to stand for cult objects. Many signs are costume elements. Probably the entire 'writing' of Teotihuacán consists of names of gods, time-markers, astral signs, directional sym-

bols, and a few bar-and-dot numerals.50

The study of these glyph-like forms has been rewarding in respect of chronological relations with other civilizations. With Classic Maya art, Teotihuacán shares a trapezoid sign interlaced with a triangle; it reappears in Mixtec manuscripts as a sign for the solar

year. Other Maya forms are the long-nosed upper jaw of a serpent head, and a human head framed by serpent jaws. With Classic Zapotec art, Teotihuacán has in common a treble scroll, a trilobed drop, and a mountain sign (Figure 8). The Classic Veracruz style of the Gulf Coast shares with Teotihuacán the figure of a fat god; angular scrollwork; smiling figurines; and head-dresses inscribed with signs.

The iconographic system at Teotihuacán allows a few inferences about intrinsic meaning. Representations of aggressive behaviour are absent. The signs represent flowers, water, mountains, and other items of peaceful agrarian experience. The figurines are devoid of individuality. The masks conform to a tranquil and opaque ideal of generalized beauty. The art of Teotihuacán is impersonal, relying for expression only upon the animated aspects of a benevolent and watery nature. It is altogether lacking in direct erotic symbolism. The images of flowers, of twining strands of water, and the song and speech scrolls of flowered contour all bespeak a peaceful and poetic worship of nature, through which there runs a strong current of anxiety concerning flood and drought, conveyed by the insistent references to water.<sup>51</sup>

## XOCHICALCO

Xochicalco, south-west of Cuernavaca, rose to importance about the time of the abandonment of Teotihuacán. It is a hilltop ritual centre related to Classic Maya archi-

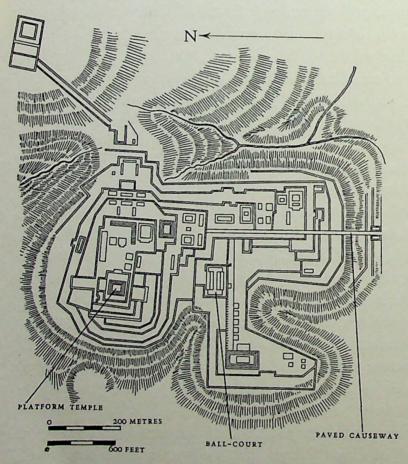


Figure 9. Xochicalco, eighth-ninth centuries. (A) General plan

tecture,52 and specifically to Piedras Negras. The ceramic chronology shows early settlement, with archaic pottery of a type encountered throughout southern and eastern Mexico, as well as in the southern and central Maya districts.<sup>53</sup> Relationships with the Valley of Mexico are surprisingly few. From the pottery it is clear that Xochicalco was the northwestern frontier outpost for a Maya cultural tradition, with historical antecedents and of a geographical spread altogether unlike Teotihuacán. The most likely avenue of communication with the Maya territory was through the state of Guerrero and along the Pacific coast.

The people of Xochicalco and its vicinity probably made im-

portant contributions to the formation of Toltec civilization in the ninth and tenth centuries A.D. The site was never fortified,54 and the excavations brought forth no weapons. The hilltop contours were levelled and terraced to form a fairly regular network of platforms, courtyards, and esplanades (Figure 9). The main axes are on the cardinal points. Three distinct groups - northern, western and eastern - occupy the hilltop shoulders, connected by paved causeways and esplanades. The north, or highest, shoulder is crowned by a sculptured platform. The east group is aligned along a paved road dropping away to the south. The west group consists of a ball-court, a dwelling group containing a sweatbath, and a pyramidal platform aligned along a level east-west esplanade.55 The ballcourt is probably the oldest edifice of its kind in central Mexico,56 closely resembling the Classic Maya ball-courts at Cobá, Piedras Negras, and Copán, with slanting playingwalls, of a shape and size repeated exactly at Tula under Toltec rule. Connecting the ball-court and the western pyramidal platform is a causeway 20 m. (65 feet) wide, lined on the north side with the foundations of twenty cylindrical constructions, possibly altars or pillars. Near its centre are the foundations of a dwelling on a chequerboard plan of four courts on ground sloping away to the south-east. The group includes inner rooms with platform benches like the central Maya sweat-bath disposition.57

The most striking edifice is the sculptured platform temple <sup>58</sup> in the highest court on the northern cross-axis. Upon a solid platform measuring 19.60 by 21 m. (64 by 69 feet) rise the roofless walls of a square cella entered from the west, up a stairway with

carved serpent balustrades. The platform of rocks and clay is revetted with a veneer of finely cut and sculptured andesite blocks (Plate 8A). The platform profiles are designed to carry across great distances. They consist of the familiar talus and panel, augmented by a cornice of upward-slanting section.<sup>59</sup> The proportional relations differ radically from those of Teotihuacán. At Xochicalco, the talus and panel are related as 4:9, while the usual proportion at Teotihuacán is close to 3:8. The high talus and the slanting cornice between them reduce the panel to an entablature. The suppression of the panel frame, which was so strong a form at Teotihuacán, further stresses the importance of the talus. From a distance, the Xochicalco silhouette reads clearly as an energetic form of concave vertical profiles, unlike the Teotihuacán effect of oblong slabs cushioned upon layers of shadow. The Xochicalco scheme was designed to give great importance to the sculptural programme, which

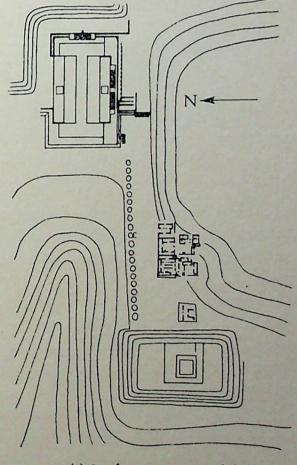


Figure 9. (B) South-west group with ball-court

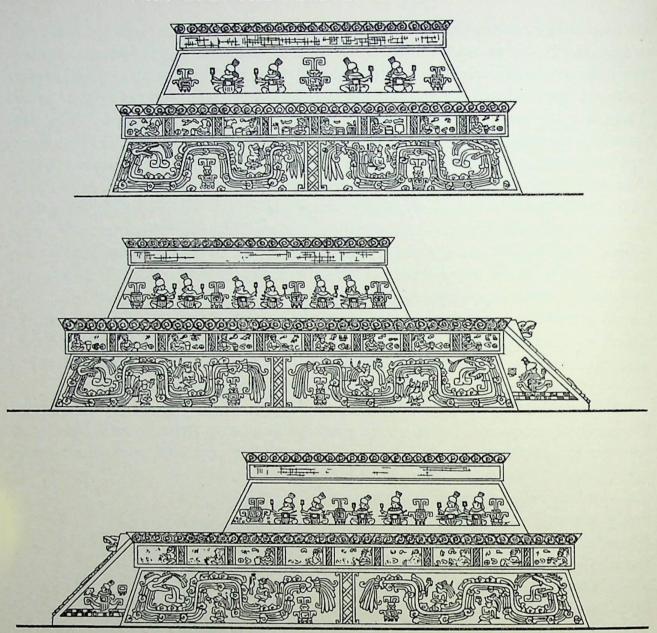


Figure 9. (c) Platform temple, lateral and rear façades

at Teotihuacán never invaded or diminished the tectonic effect of the architecture. Here, the principal figural compositions occupy the talus instead of the panel, which displays small oblong scenes. The cella exterior had the same arrangement, today much mutilated.

The spatial order of the relief carvings recalls the leaves of a screenfold manuscript like Codex Féjerváry or Codex Laud (see p. 102). The reliefs show traces of red, green, yellow, blue, black, and white paint, much as in the manuscripts. They were later covered with a uniform coat of red pigment. The platform talus is divided as if into eight pages, each oblong, and each containing an undulant feathered rattlesnake (Figure 9c). The overhead loops surround flaming calendrical glyphs, and the troughs enclose six seated men wearing animal head-dress. The frieze-panel above the talus divides into thirty oblong page-like compartments. Each contains a seated warrior and several glyphic signs, in two sequences beginning at the centre of the rear façade, where

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files facing left and right carry around the building to end at the cheeks of the stairway. The cella talus displays similar files of seated men, beginning on the rear wall, and ending on the stairway cheeks. The figures are in pairs, separated by calendrical signs. Each of these twenty priests or gods wears a bulbous turban and carries a fan-like object, which may denote high rank, as in Maya and Aztec iconography. In each zone the seated men are probably the patron deities of the corresponding time – periods denoted by the accompanying glyphs. The turbaned men of the cella wall have been compared to the congress of astronomers shown on Altar 2 at Copán. The talus panels flanking the stairs are thought to commemorate a correction of calendar periods on the occasion of a New Fire ceremony. The glyph-forms are like Aztec day-signs, but they are enclosed by the typical Maya cartouche, and the numerals resemble those of the Zapotec inscriptions of Monte Alban.

### CHAPTER 3

# THE VALLEY OF MEXICO AFTER A.D. 1000

#### THE TOLTEC REVOLUTION

TEOTIHUACÁN exemplified the priestly government of early village groups, but Tula is the type-site for the warrior aristocracies of Middle America after about A.D. 1000. As the capital of the Toltec ('builder') dynasty, Tula flourished from the tenth to the thirteenth centuries, ruled by fighters rather than priests, who restricted political control to as few families as possible. Religion centred upon human sacrifice, in an aggressive, expansionist relationship to neighbouring tribes. Toltec skills included an early Middle American use of metallurgy, probably relayed via Central America from the central Andean coast.

Tula is about 40 miles north-west of both Mexico City and Teotihuacán, upon a natural frontier separating the rich Valley of Mexico from the desert plains of the north. The stratigraphy of the site confirms its chronological position of c. A.D. 1300, after Teotihuacán and before the Chichimec invasions.<sup>2</sup> The ceramic remains are of types (Coyotlatelco and Mazapan) found also at Teotihuacán, but intrusive upon the burned and deserted remnants of the Classic centre. At Tula, finally, the burned and deserted city of the Toltecs was reoccupied by later inhabitants of Chichimec (barbarian) origin, whose presence is attested by ceramics of Tenayuca type (p. 49) in the fourteenth century.

The sources of Toltec civilization are still obscure. The exploitative character of the small, nomadic warrior aristocracy probably took shape during the eighth and ninth centuries, after the collapse of the theocracies owing to some combination of climatic, institutional, and demographic disorders. The fullest record of the early history of such a warrior group is found in the Mixtec genealogical manuscripts of southern Mexico, which give a dynastic history beginning in the eighth or ninth centuries A.D. These manuscripts, compiled after about 1300, record early customs among the Mixtec tribes (Plates 52, 53, A and B, 54, A and B, and 55, A and B), customs strikingly like those recorded in Toltec sculpture. Either Toltec historiography derives from Mixtec antecedents, or the Mixtec chroniclers modelled their histories upon Toltec sources. The former is more likely, because the traces of Mixtec expansion throughout Middle America are on the whole earlier than the Toltec horizon, and they are reinforced by the Mixtecs' own pictorial chronicles.

The architectural forms of Toltec civilizations come from other sources. The pyramidal platforms, the composition of large open spaces as ritual centres, and the colossal statues have precedents in the style of Teotihuacán. A direct Maya influence upon the art of Tula owing to Toltec domination in Yucatán after A.D. 1000 should not be overlooked. The case of Xochicalco affords precedent for art of Mayan derivation in central

Mexican territory. The possibility that elements of the style of Tula are transplanted from Chichén Itza will be considered in Chapter 9. This clearest example of the political expansion of Toltec civilization, with the military domination of the Maya people by a few Mexicans at Chichén Itza during the tenth to thirteenth centuries,<sup>3</sup> is reflected in the close parallels between the art and architecture of the two cities after 1000. Other examples of 'Toltec' conquest and expansion are less certain. Their enumeration depends upon texts in which the meaning of the term reflects many different layers of revision, and compilation from many conflicting sources.<sup>4</sup>

# Architecture

The Toltec city of Tula lies west of the present town, upon a hill called Cerro del Tesoro, in a bend of the Tula river (Figure 10). Only a small portion of the central court has been excavated: it is a plaza about 240 yards square, orientated upon the cardinal points. The west, east, and south sides are still unopened. The north side is a long platform bounded at the east corner by a colonnaded portico and a terraced pyramid. The pyramid is flanked by other colonnaded enclosures. Behind it is a ball-court of the same size, shape, and orientation as the one at Xochicalco. Dwelling groups to the south-west and north-east of the main court were excavated in the nineteenth century.<sup>5</sup>

The absence of all fortification is immediately striking. Like Teotihuacán in its last phase, Tula was a ritual centre surrounded and invaded by dwellings. Some, like Roman houses, faced inward, upon central courtyards. The differences between Tula and Teotihuacán are important, but the resemblances have been underestimated because of the long confusion whereby Teotihuacán was identified with Tollan (i.e. Tula of the historical texts) in philological commentaries by the German school of Americanists. This confusion has required an extreme differentiation of the two sites. But there can be no doubt that the Toltec overlords, coming after the theocracy of Teotihuacán, perpetuated certain urban forms of their more pacific predecessors, and that the fortress cities of Middle America belong to a later horizon than the Toltec. Indeed, the building history of Tula probably repeated that of Teotihuacán, beginning with pyramids, and ending with dwelling groups.

No major innovations appear in structural technique, which seems poorer than at Teotihuacán, lacking the latticed structure and the cantilevered panels. The principal pyramid is the eastern one, about 65 m. (215 feet) square, like the southern pyramid at Teotihuacán, but augmented here by conical aprons flanking the stairway. The aprons make a transition between the pitch of the stairs and the steeper pitch of the terraced profile. The process leading to their design can be studied in the pyramid at Tenayuca (Figure 12), where analogous aprons were added in the fifth phase, about A.D. 1400 (p. 49).

More completely known is the form of the smaller north pyramid (Plate 8B), which is 38 m. (125 feet) square, of five stages, with a stairway on its south front. The core of stone and earth has a stone facing from which tenons project to hold in place the veneer of thin stone plates forming the outer surface. Cylindrical stone drains are built

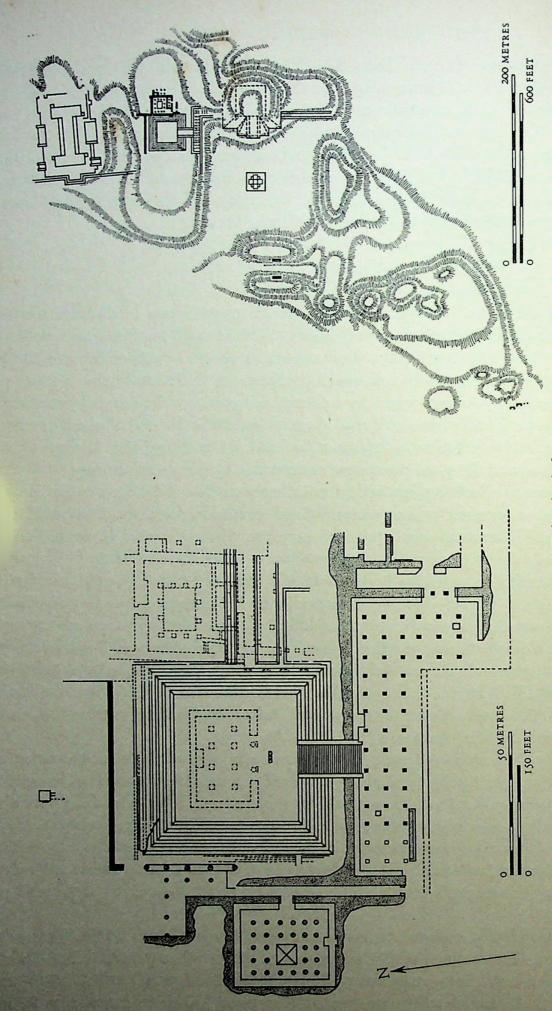


Figure 10. Tula. Plan before 1250

# THE VALLEY OF MEXICO AFTER A.D. 1000

into the terraces behind the veneer. The terrace profiles are novel, consisting of three roughly equal portions: a talus (55-60 cm., or about 2 feet, high), an entablature of salient and recessed double-square panels (70 cm.), and a crowning frieze (60 cm.). Entablature and frieze are horizontally marked by three wide, flat, raised mouldings like the panel frames of Teotihuacán. The panelled frieze and entablature compartments are carved with reliefs of pumas in the friezes, and Venus masks, eagles, and buzzards in the entablatures. The stone reliefs are thickly caked with plaster facing, originally painted in descriptive solid tones. The figural character of this scheme is clearly in debt to the processional and heraldic wall decorations at Teotihuacán. The frieze of jaguars and pumas, for instance, should be compared with the Atetelco 9 murals both as to conception and style. On the other hand, the in-and-out composition of the entablature blocks relates to the rich chiaroscuro system of the terrace panelling at Monte Alban and Mitla in southern Mexico (p. 95). The Tula version of the projecting and receding panels is more linear, and designed more for close inspection than the long-distance effects of Monte Alban. The viewing distance was imposed, of course, by the figural sculpture at Tula.

Only the scattered supports of the destroyed cella have been recovered. It was probably a beam-roofed chamber, entered by a triple doorway with serpent columns, and divided by a row of four Atlantean columns (Plate 9) and four piers each 4.6 m. (15 feet) high (Plate 10), of which the mortised and tenoned drums are scattered about the pyramid. The Atlantean columns have their precedent in the colossal anthropomorphic support from the north pyramid (Plate 4) at Teotihuacán, where the idea of square piers was in common if limited use.

The front of the south pyramid was bordered by a colonnaded portico of three files of fourteen square piers each, turning the north-east corner of the plaza, to continue south in a short section three bays long. To the east and west of the north pyramid are two colonnaded courtyards. Of later construction than the pyramid, these probably adjoined dwellings of insubstantial construction. The portico and the patio buildings both mark a bold step in ancient American architectural thought. All previous designs in Middle America were open courtyard enclosures, sometimes closed at the corners, and always composed as external masses for effects in open-space design. The Tula designer and his contemporaries at Chichén Itza (Figure 59) were the first to treat the building more as a hollow volume, with interiors to be carried around corners, as in the cloistered ranges of medieval architecture in Europe.

Another striking form at Tula is a free-standing wall about 15 feet north of the north pyramid, defining an open corridor at its base. Called the coatepantli (serpent wall) because of its decoration, it rises 2.6 m. (8½ feet), and is carved in relief on both faces (Plate 11A). The base is a double talus, 90 cm. (3 feet) wide at ground level, and 80 cm. high. Upon this base is the two-faced relief band of rattlesnakes devouring skeletal humans. The theme alludes to the souls of dead warriors. Wide borders above and below this figural band are adorned with geometric meander forms of textile origin. The closest parallel to these border designs is in Mixtec manuscripts, where such forms are used in paintings of architectural platforms to identify place-names (e.g. Tilantongo is

represented by this very meander, painted in black and white).<sup>11</sup> The coatepantli is crowned by crenellations. These perforated slabs of stone represent sections of conchshells. As heraldic forms they derive from the stones used as crenellations at Teotihuacán.<sup>12</sup> The south face shows more hurried workmanship: the talus is faced with plaster, and the reliefs are executed in a cursive and slovenly manner, contrasting with the more detailed workmanship of the north face.

# Sculpture

The expression attained by the sculptors of Tula differs from that of their predecessors at Teotihuacán by the choice of deliberately harsh forms, which avoided grace and sought only aggressive asperities, gritty surfaces, and bellicose symbols. The technique, like that of the earlier age, remains Neolithic, although the ornamental use of gold is attested during the Toltec era. The sculptors relied more upon deep linear incisions than their contemporaries in Yucatán. The enumeration of the parts of armour and costume (Plate 10) has an ideogrammatic clarity lacking in the painted reliefs of Toltec date at Chichén Itza.

The architectural setting, as we have just seen, offered no fundamental novelties. There are caryatid figures, large and small, serpent-columns, piers, and panel reliefs in the tectonic repertory. The only examples of free-standing sculpture are reclining male figures (Plate 11B) and chunky human standard-bearers, but their placing was strictly governed by the architectural situation.

The Atlantean figures, 4.6 m. (15 feet) tall, are the most theatrical works produced at Tula (Plate 9). The four columns of four tenoned drums each are identical, representing warriors or hunters, imprisoned by the shallow relief of the nearly cylindrical drums. They carry throwing-sticks (atlatl) and hunting bags. Their costume consists of wrapped garments: an apron, which leaves the buttocks bare, garters on calves and ankles, a bib over the chest, arm-wrappings, and a headband of fur or mosaic. In all these wrappings the knots and binders are portrayed with loving military care; the rear view is like an exemplar of the knot-maker's art. An immense butterfly pectoral, a disk surrounding a human trophy-head at the small of the back, and a quiver of darts lashed to the headband complete the savage panoply. The fourfold repetition conveys the effect of a frightening palace-guard.

On the four piers, of four carved faces each, which stood in the rear row of the cella, the palace-guard continues in very flat relief, confined by upright rectangular compartments, in which bundles of arrows alternate with standing warriors in profile (Plate 10). These warriors, with their brandishing gestures and their lean, loose-limbed gait, convey a more animated version of the Toltec military caste than the Atlantean figures.

At the entrance to the cella, the three doorways were separated by two serpent-columns of which only the feathered body drums have been found. They were probably like those of Chichén Itza (Plates 93A and 94), with open-fanged heads as bases, and the tail rattlers as lintel-supports. This reversal of the usual expressive character of the tectonic support is unique in the history of architecture, in the substitution of a flexible

form for a rigid one, and in the inversion of the head and the base. It is as if an Ionic or Corinthian order were used upside down, with the capital on the ground. If the directional interpretation of this serpent support is correct, it may have served the purpose of connecting upper and lower zones of the universe. Instead of supporting a load, the Toltec serpent-column descends from the skies to spread celestial gifts upon the earth. In this form, surrounded by the images of warriors and hunters, instead of the priests of the older theocracy, the feathered serpent of the Teotihuacán people survived, a god of vegetation and rain, 15 among barbarian protectors in the feudal age of American antiquity.

The recent discovery at Tula of a reclining male figure carved in dark basaltic stone, of the type fancifully named Chacmool (Plate 11B), further completes the parallel between Tula and Chichén Itza. At Chichén (Plate 99A) such figures are very common, and have some of the same attributes as the colossal figures of Tula. The figure reclines in an uneasy position, with raised knees and torso, looking over his left shoulder, and bearing a vessel for offerings on his abdomen. The type has been interpreted as a heavenly messenger taking the blood-gifts of humans to the gods. As at the Temple of the Warriors in Chichén Itza, the Chacmool figure probably occupied the cella terrace, athwart the doorway axis.

Below the cella terrace were processional jaguar figures on the various cornices (Plate 8B), and eagles and vultures devouring human hearts. In Aztec society, and probably among the Toltecs, the warrior moieties were called jaguars and eagles. Their mission was to secure human sacrifices for the nourishment of the gods, necessary to

maintain the rhythm of the universe (see p. 52).

Between the pairs of eagles in the entablature of the Tula pyramid are heraldic figures which recur at Chichén Itza: from the open gullet of a frontal feathered monster appears a human head. At Chichén Itza (Plate 100A), accessory signs clarify this form as a symbol of the planet Venus, whose period of 584 days correlates with the vague solar year of 365 days by the equation  $5 \times 584 = 2920 = 8 \times 365$ . In the cella, the caryatids, as huntsmen-warriors, are also related to the complex of forms connected with the worship of the morning star (Tlahuizcalpantecutli, Lord of the House of Dawn).

Thus the north pyramid at Tula (now called Tlahuizcalpantecutli) seems to declare the combination of two systems. The older animistic worship of rain and fertility, represented by the feathered serpent, combines with the mystic cult of the planet Venus, whose representative is a hunting god (Mixcoatl) of nomadic tribal origin, and whose

cult requires human sacrifices.

At ground level, in the colonnade below the north pyramid, is a bench carved with processional figures exactly analogous to those of Chichén Itza in the Mercado colonnade (Plate 99B), and in the colonnade of the Temple of the Warriors. The Tula procession is of more stunted proportions and coarser execution, but the meaning is clearly the same as at Chichén. The processional type reappears in Aztec sculpture of the fifteenth century, on friezes and slabs in the National Museum, notably the Tizoc Stone (Plate 14). The procession of files of individuals converging from left and right upon an image of the god, or upon a symbol of blood sacrifice, is the recurrent theme. The

costumes, attributes, and physical types differ enough in these processions to justify their identification as historical figures, perhaps a convocation of tribal leaders allied under the unifying cult of the Morning Star deity.<sup>18</sup>

Across the river from Tula are rock-carvings, presumably of Toltec date, on the Cerro de la Malinche. One shows a feathered serpent (Quetzalcoatl) in the form of an angular Z-scroll as the priestly name-glyph of a striding male figure. He draws blood from his left ear lobe with a jewelled bone (Figure 11). Above him a date-glyph indicates his historical calendar-name, One Reed (Ce acatl).<sup>19</sup>

In Aztec sources, One Reed was the legendary founder and hero of Tula, the inventor of writing and many crafts, the priest-king, the builder of the serpent-columns, the lord Quetzalcoatl. Driven from Tula by the in-



Figure 11. Tula, Cerro de la Malinche, rock carving of Ce acatl, c. 1200

trigues of rival magicians, he fled to the east, where his body changed after cremation into the Morning Star. These particulars reflect a long mythopoetic elaboration and fusion of many distinct themes. The myths became so intricate in Aztec sources that their historical reduction seems impossible. But wherever one turns, the figure of Quetzalcoatl (Kukulcan in Maya language) re-appears to suggest yet becloud the fundamental unity of Middle American religious beliefs throughout pre-Conquest antiquity.<sup>20</sup>

### THE CHICHIMEC INTERLUDE

The fall of Tula in the thirteenth century was precipitated by nomadic (Chichimec) tribes moving in upon the rich lands of the central plateau, a process that had been under way for millennia.<sup>21</sup> The end of Teotihuacán and the rise of Tula were probably brought on by these same nomadic waves from the north; for the history of Tula, though called Toltec, displays many survivals of the culture of nomadic huntsmen.<sup>22</sup> It is now the agreed convention to designate the tribal history of the central region, from the end of Tula to the creation of Aztec hegemony, as the Chichimec period (c. 1250–1430). The Aztec people regarded themselves as the descendants of Chichimecs. The term, however, simply means 'barbarian', and it includes peoples of the most diverse geographic origins.

The last generations to know the theocratic regime of Teotihuacán probably called the immigrant bands of their day Chichimecs, until these had earned the name of Toltecs (builders) in the renewed tradition of urban life at Tula.<sup>23</sup> But between the fall of Tula and the rise of Tenochtitlan, several generations lived without knowing domination by an economic power, like Tenochtitlan, or by a single warrior dynasty, such as

## THE VALLEY OF MEXICO AFTER A.D. 1000

the Toltec lineage. This interlude between great states, when the central valleys were in dispute among many tribes of more or less recent arrival, all seeking territory and alliances among the ruins of Toltec civilization, is the Chichimec period of the history of the central zone.<sup>24</sup>

Tenayuca, today a village in the north-western suburbs of Mexico City, was the principal religious centre of the period until about 1300, when the capital moved to Texcoco on the eastern shore of the lake. The complete archaeological excavation of the Tenayuca pyramid (Figure 12), together with the Chichimec dynastic histories, are the

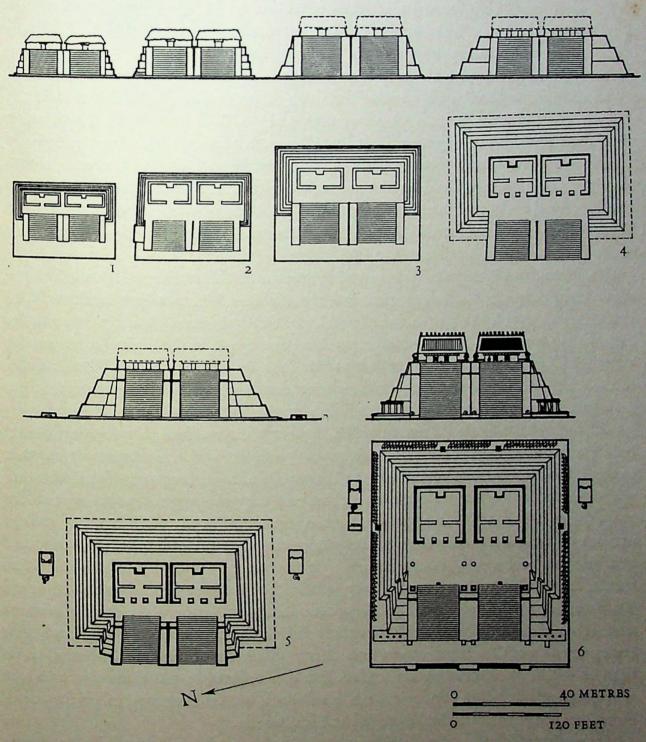


Figure 12. Tenayuca, pyramid. Plans and elevations showing enlargements of c. 1300-1500

chief sources of knowledge. These pictorial histories allow a detailed reconstruction of the events following the fall of Tula from about the mid thirteenth century until the Spanish Conquest. Full genealogical sequences and pictorial accounts of the principal occurrences in all the main villages of the valley appear on the map-like sheets of Codex Xolotl,<sup>25</sup> and in the pictorial annals called Mapa Tlotzin and Mapa Quinatzin.<sup>26</sup>

For example, the introduction of writing and goldsmithing among the Chichimecs about 1300, by a band who emigrated to the Mixteca territory in southern Mexico, and who returned to the Valley (their name, Tlailotlac, signifies the returners), is clearly recorded in Codex Xolotl (Plate 12A). The name-glyph of the tribe shows a path recurved upon itself with footsteps, attached to an artisan busily making signs with a stylus upon a block or sheet of paper. Thus the pictorial conventions in the Chichimec histories repeat and enlarge upon those of the Mixtec genealogies.

The main outline of Chichimec history is accordingly much clearer than that of all the preceding epochs in the history of the valley. The nomad hunters settled in the valley by force of arms. By marrying their daughters to Toltec husbands, they became valley dwellers with a culture strongly affected by south Mexican influences, principally from the Mixteca Alta of western Oaxaca. The first three Chichimec rulers, Xolotl, Nopaltzin, and Tlotzin, lived at Tenayuca. Quinatzin, the fourth king, moved to Texcoco,<sup>27</sup> and under his successor, Techotlala, Chichimec power waned, passing to the Tepanec lineage of Azcapotzalco,<sup>28</sup> at about the time (c. 1350) of the rise to importance of the Tenochca tribe, later known as 'the Aztecs'.

The pyramid of Tenayuca (Figure 12), facing the zenith setting of the sun (p. 27), shows eight campaigns of enlargement and remodelling.29 The earliest edifice of four vertical terraces (31 by 12 by 8 m.; 102 by 39 by 26 feet) supported two adjacent temples each with its own stair. This disposition persisted to the end, in the eighth enlargement, when the platform measured 62 by 50 by 16 m. (204 by 164 by 52 feet). The doubling of the width and height lasted about three centuries. Each of the six major campaigns may have been prompted by the conclusion of the fifty-two-year calendrical cycle (p. 63) by which Middle American tribes regulated their affairs. By this reckoning, only the first two layers of the onion-skin growth belong to the Chichimec period prior to the shift of the centre of government to Texcoco, and the emergence of the Tenochca as the new masters of the valley. If the earliest two stages belong to the century before 1350, the end of the Chichimec period is perhaps reflected in the third layer, where the number of terraces is reduced to three large talus elements of sloping profile, continued in the sloping profiles of the twin temples. The twin temples upon a platform characterize the temples of the Aztec confederacy, where they were dedicated to the rain god, Tlaloc, and the tribal war god, Huitzilopochtli, in an arrangement honouring both the ancient animism of the valley and the tribal fetish of the new masters of the land. This arrangement is of Chichimec origin, and it exemplifies one of the main historical traditions on which Aztec society was founded. It in turn reflects, by its orientation upon the zenith setting of the sun (17 degrees north of west), the continuation of priestly ceremonials as old as the east (Sun) pyramid at Teotihuacán.

Many other edifices of the Chichimec period adorned the valley: of these only the

# THE VALLEY OF MEXICO AFTER A.D. 1000

platforms and house groups of the Matlatzinca tribe at Calixtlahuaca in the Toluca Valley have been fully excavated.<sup>30</sup> Here, the round pyramid (Plate 13A) contains four layers, of which the nucleus is pre-Toltec. The second and third layers had stones projecting to retain a plaster coating, as at Tula or Tenayuca. The fourth and outermost layer of red and black tezontle (pumice) is surely of Aztec date, built after the conquest of the region by Ahuitzol in 1476. The cylindrical terraced form with an east stair was retained in all four versions; only the second version lacked cornice profiles.

# THE AZTEC CONFEDERACY

A few families of nomadic huntsmen, the Náhuatl-speaking followers of Tenoch, who worshipped Huitzilopochtli,<sup>31</sup> arrived in the Valley of Mexico about 1250 as one of many Chichimec bands from the north. Like gypsies they settled along the lakeside at Chapultepec on the lands of the lord of Colhuacan. To escape his oppression they fled after 1350 to an island refuge, Tenochtitlan,<sup>32</sup> where they prospered, enlarging the site with *chinampas* interlaced by canals, until in 1520 the island capital housed at least 75,000 people. Like other Chichimec bands of Náhuatl-speaking nomads, the Tenochca, or Mexica, as they called themselves, married into the lineages of the lake-shore cities, and thought of their dynastic line as descended via Xolotl from the Toltec dynasty of Quetzalcoatl of Tula.<sup>33</sup> About 1430, the islanders, under Itzcoatl, allied with Texcoco to destroy the power of the principal west shore city, Atzcapotzalco. Thereafter the Aztec kings, as dominant partners in a triple alliance with Texcoco and Tacuba, extended their conquests to the east coast, to southern Mexico, and into Central America, until the network of subject tribes included thirty-eight provinces held by Aztec garrisons and paying tribute <sup>34</sup> to the cities of the Valley of Mexico.

To explain the rapid rise of the Aztecs to this imperial power, and to account for the expressiveness of Aztec art - in short, to understand both their worldly expansion and their metaphysical motivation - we must discuss the central rite of Aztec life: human sacrifice.35 The festivals of the calendar were celebrated with countless immolations. War had the supply of sacrificial victims as one of its main objects; in civil life, men and women selected for sacrifice submitted to its rituals without complaint. From birth to adult age, every facet of education prepared Aztec youth for the eventuality of sacrifice. Death by sacrifice came to be an expected and even desirable end, for which art, poetry, and religion all prepared the victims with an endless, pervasive justification of its necessity. The youth chosen for his beauty to impersonate the god Tezcatlipoca in the annual Toxcatl festival of the sun played his role for a year, surrounded by luxury, before being sacrificed by heart removal. The inevitable by-product of the total discipline for death required by the institution of human sacrifice was the formation of military organizations which, when confronting tribal warriors of a looser social training, were invincible. But the purpose of human sacrifice was not to train death-despising soldiers. The contempt of death arose from an altogether different motivation, connected with Aztec myths of the origin and purpose of mankind. These myths formed an explanatory

metaphor for the nature of the cosmos so coherent and convincing to its communicants that the enormity of sacrificial death was acceptable.

The Aztec cosmos was anchored upon the idea of sacrificial creation. Four imperfect ages of the universe, each ending in catastrophe, had preceded the present age, which began by an act of sacrifice when two gods threw themselves into the fire, emerging as sun and moon, set in motion by further sacrifices of the other gods. The first men then were kneaded of bonemeal mixed with the sacrificial blood of the gods. This genesis both left the gods incomplete, and conferred godlike properties upon men, establishing human responsibility for the maintenance of the universe. Without men the power of the gods wanes until they cannot renew the annual cycle of fertility on earth. The sun, the earth, the moon, and the gods of vegetation and animal life all need annual rejuvenation by draughts of human blood. Without human sacrifices the earth's fruits wither and men perish, so that the continuation of the universe hangs upon the payment of the blood debt. By this cyclical conception of the exchanges of vitality, with the gods renewing the cycle of plant and animal growth to feed humans, and the gods feeding on human blood, the ritual of human sacrifice was justified by its devotees.<sup>37</sup>

These beliefs are as old as the Toltec revolution. Rites of human sacrifice exactly like those portrayed in Aztec sources are shown on a golden plate of Toltec date from Chichén Itza. The origin-myth recurs among the Nahua-speaking Pipil tribes of Central America, who reached their present habitat in Toltec times, and among whom the theme of the archetypal blood-debt has its oldest recorded version.<sup>38</sup> But the Aztecs developed these beliefs most fully.

### Architecture

The metropolitan concentration of the Aztec state is apparent from descriptions of the capital, Tenochtitlan, which underlies Mexico City, and which was destroyed in the Spanish siege during the spring and summer of 1521. Written accounts by eye-witnesses, Indian plans, and twentieth-century excavations allow us to form a fairly complete idea of the city (Figure 13).<sup>39</sup> The island was connected to the mainland by causeways bearing traffic across the shallow lake to the north, west, and south shores.<sup>40</sup> A double aqueduct from Chapultepec brought fresh water to augment the springs of the island. An older Tepanec settlement at Tlatelolco, in the north-western quarter, was finally absorbed into the new Tenochca state in 1473; <sup>41</sup> its configuration gave the status of a double city to the Aztec capital, with two distinct commercial centres and two main groups of religious edifices, recorded by the chroniclers, which affected the strategy of the siege of 1521.

In Tenochtitlan, whose rapid growth enveloped the older twin city, the causeways to the mainland boldly marked the co-ordinates of a grid plan, guided by the rectangular growth pattern of the artificial chinampa lands, a growth pattern which is conserved in an Indian plan (Plate 12B) misnamed the Plano en Papel de Maguey (Museo Nacional).<sup>42</sup> At the intersection of the co-ordinate causeways near the centre of Tenoch-

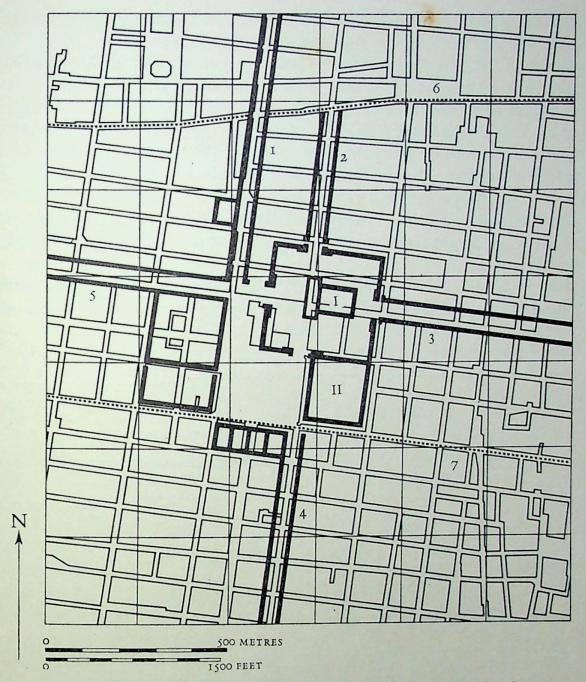


Figure 13. Tenochtitlan. Plan c. 1510 showing relation of the Aztec capital to the present centre of Mexico City. I Main Temple. II Montezuma's Palace. 1, 2, 3, 4, and 5 principal streets. 6 and 7 canals

titlan rose the pyramids and temples of the main ritual area, enclosed in a wall of carved serpents' heads, and covering an area of about 350 by 300 m. (380 by 330 yards). This scheme, of cardinal roads intersecting at the walled ritual centre (Figure 13), was repeated in other Aztec cities, as we know from a description written about 1540.<sup>43</sup>

Tenochtitlan differs from all previous urban layouts in the Valley of Mexico by two features: the sacred precinct is walled round; and it is overshadowed by a vastly larger residential city and suburbs. This layout reverses the plan of the ritual centres of Teotihuacán and Tula, where the dwellings fitted into the interstices and around the edges of a large ritual centre. The city of the gods at Tenochtitlan shrank to a central space

dedicated to temples, among the dwellings of men. The temples, as described by Sahagún, honoured the gods of all the tribes under Aztec rule.

Tenayuca (p. 49) and Teopanzolco 44 (near Cuernavaca) are the chief surviving examples of Aztec temple architecture in the central region. The formula is stereotyped: a pyramidal platform, symbolic of heavens, rises with stairways facing west (Figure 12). On the top terrace, twin shrines dedicated to the ancient rain god and to the Aztec tribal god symbolize the coupling of sedentary and nomadic traditions, of agricultural and military vocations, in Aztec society. The pyramidal profiles are plain, save for the stairways, where the pitch of the balustrades changes near the top to give the effect of a steep crowning cornice, and to make the top dozen steps seem more abrupt. The walls of the temple cella, of tapered profiles, continue the silhouette of the pyramidal platform.

Another type of temple was built in mountainous country. At Tepoztlán, twelve miles from Cuernavaca, the temple cella stood upon a steep platform of two terraces.

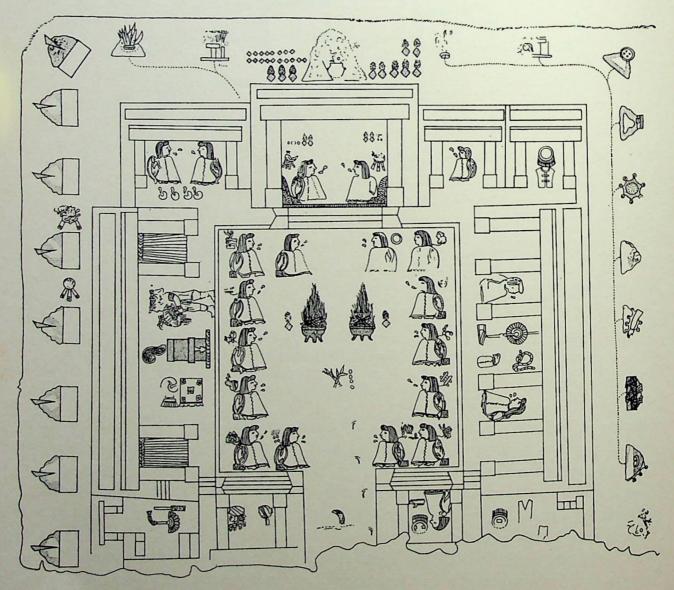


Figure 14. Texcoco, palace court. Sixteenth-century drawing after Mapa Quinatzin

### THE VALLEY OF MEXICO AFTER A.D. 1000

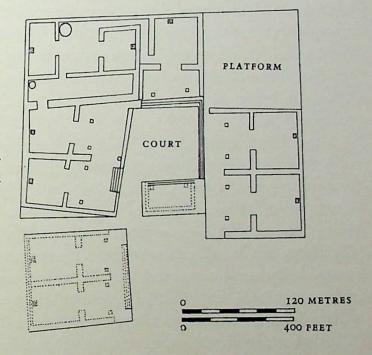
Before the inner chamber was a deep porch with two piers in the entrance. Upon a pedestal in the rear chamber stood the stone figure of the local god, Tepoztecatl, destroyed during the sixteenth century by the Dominican missionaries in the region. Date-and reign-glyphs place the construction between 1502 and 1510.45

To the west of Tepoztlán, 28 km. (17 miles) away, are the rock-carved temples of Malinalco, begun about 1476 and still in progress in 1520.46 The principal shrine is a circular chamber opening to the south by a doorway carved as a serpent mask (Plate 13B). The round cella bench has jaguar and eagle bodies carved upon its surface. In another of the rock-cut chambers are wall paintings of warriors or deities shown marching in profile upon a ground-line of stylized feathers and tiger fur (Plate 26A), again an allusion to the jaguar and eagle warrior societies to whose cult Malinalco was probably dedicated.

Ball-court edifices, introduced from the Maya area in Late Classic times, were common in Aztec religious precincts. One of the principal buildings in the temple enclosure of Tenochtitlan was a *tlachtli*. The movement of the rubber ball in the court was more than a game: it was a cult-drama of the passage of the sun across the sky,<sup>47</sup> intended to mirror celestial in earthly events.

According to one sixteenth-century chronicler, a ball-court adorned every Aztec city. None has survived.

Aztec palace architecture is now known only through the Conquest texts of eye-witnesses, which describe the dwellings of Moctezuma and Axayacatl in Tenochtitlan, and of Nezahualcoyotl in Texcoco. Parts of the Texcoco palace are described in sixteenth-century drawings, which show rows of chambers aligned upon platforms surrounding a courtyard (Figure 14). The excavation of a more ordinary house-group at Chiconauhtla near Texcoco (Figure 15) showed the same disposition of small chambers with porch-like, colonnaded vestibules surrounding a diminutive court.48 Similar arrangements, identified as the buildings of a priestly school ('Calmecac'), have been uncovered at Calixtlahuaca, where a maze of small chambers surrounds a terraced courtyard on several levels of modest height.49



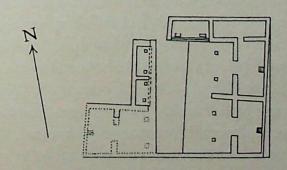


Figure 15. Chiconauhtla. Plan of upper-class dwelling, c. 1500

Aztec architecture is not remarkable for important structural innovations. The use of fired bricks at Tizatlán, in Tlaxcala, for walls, stairs, altars, and benches is reported. Bricks are also known at Tula and in the south-west Maya area, at Comalcalco, as well as in British Honduras (Corozal), and at Zacualpa in the Guatemala highlands. The Maya examples are all of Late Classic date. At Tenayuca (Figure 12) and elsewhere, the corners of the pyramids are bonded by alternating header and stretcher stones of an agreeable appearance, but the technique is not of special structural importance.

# Sculpture

The conventional division of sculpture into reliefs and full-round statues is awkward, because Aztec statues are often collections of scenes and figures in relief. Conversely, many reliefs lose meaning when isolated from the sculptural masses which they articulate (Plate 15B). A more suitable division is by functions – semantic, instrumental, and plastic. The division by functions also has the merit of corresponding roughly to the historical sequence of Aztec sculpture. As a distinct Middle American style of recognizable identity, Aztec sculpture emerged only after A.D. 1450. The style drew upon traditions and craftsmen from the conquered eastern and southern regions, and it emerged as a new expression moulded by the sublime importance of human sacrifice and by the guilt-ridden conception of duty in Aztec life. Much Aztec sculpture assumed the functions of written communication. It also often enriched tools or instruments. These utilitarian requirements frequently reinforced the expressive power of the composition.

The explicative character of some Aztec sculpture can be assigned to the persistence of Toltec pictorial traditions, and to the influence of Mixtec manuscript illumination and pottery decoration. On the other hand, richly sculptured tools and instruments characterize the productions of the Gulf Coast peoples, as in the 'Totonac' yokes, blades, and other ball-game accourtements (Plate 40). Finally the sculptors who, from antiquity, excelled all others in the achievement of the modelling of flesh and in animated body movements were the 'Olmec' artisans of southern Veracruz and Tabasco,

whose ethnic identity persisted intact until the Spanish Conquest.<sup>51</sup>

It will seem adventurous to those who regard 'Olmec' art only as of archaic or Early Classic date, to consider the retention of these habits in Aztec sculpture. But we have no evidence that 'Olmec' art is not of extremely long duration, nor have we any proof of the early historical date of such masterpieces as the seated athlete (Plate 36). Certainly there is no other tradition of Middle American sculpture with which Aztec sculptural accomplishments, such as the isolated heads and the expressive modelling of the parturition figure (Plate 21), can be compared. Whether or not direct 'Olmec' contributions by living craftsmen are involved remains to be proved. But it is certain that Aztec and Olmec sculptural expression are connected, if only by an archaeological nexus, like that of Roman and Renaissance sculpture.

Among carvings of explicative character, the square stone discovered at the southwest corner of the cathedral plaza in Mexico City 52 marks the importance of Toltec traditions; for the stone was probably carved at Tula in Toltec times, and moved to Tenochtitlan some two centuries later. It is akin to the processional reliefs lining the colonnaded portico at Tula. In Mexico City, it relates to processional reliefs of Aztec style, such as those which surround the circumference of the cylindrical slab, 2.65 m. (8½ feet) in diameter, called the Tizoc Stone (Plate 14). The seventh Aztec monarch (1483-6) is portrayed as a conqueror and war-god impersonator triumphant over fifteen chiefs, whose dominions are indicated by place-name glyphs. These conquests appear in other records as spreading over several reigns previous to Tizoc's. The iconography, representing Tizoc as the inheritor of many conquests, and as the lord of all between earth and heaven, probably corresponds to one of the decisive moments in the transformation of the concept of kingship, from tribal leader to deified dynastic ruler.<sup>53</sup>

Tizoc 54 was portrayed once again in 1487 with his brother and successor, Ahuitzol (1486–1502), in a scene showing the brothers symmetrically flanking a matted ball of cactus fibre (Plate 15A). Here, as upon a pin-cushion, the cactus needles and bones used in sacrificial blood-letting were kept. From the ear-lobes of the two kings streams of blood wind upward around the heads to fall upon the stylized mouth of the earth-crocodile beneath their feet. The year-sign, Eight Reed, in the square lower portion of the stela, refers to 1487, the date of the completion of the rebuilding of the main pyramid at Tenochtitlan, when war-captives from the east and south were sacrificed.

These two Tizoc scenes are the principal Aztec reliefs showing historical matter.<sup>55</sup> They derive from Toltec processional forms, and from manuscript illuminations of Mixtec origin. Their character as historical documents is invaded by symbols of the cosmic and religious meaning of kingship: they serve more as documents of Aztec ceremonial life than as strictly descriptive or narrative representations.

All other Aztec sculpture avoids the detailed characterization of historical time. The calendar stone <sup>56</sup> of the National Museum in Mexico City, 3.5 m. (11½ feet) in diameter and carved after 1502 under Moctezuma II, displays the face of the sun god surrounded by symbols of the five ages of the universe in a central ring (Plate 16A). The ring of twenty day-signs and the outer circumference of two sky serpents (Xiuhcoatl) signify time and space, but no detail identifies the historical present.

Another monument of sun-worship is the stone model, 1.2 m. (4 feet) high, of a pyramid (Plate 15B) found in 1926 in the foundations of the National Palace, once the palace of Moctezuma II.<sup>57</sup> It codifies the mythical history of the sun together with the ethical conceptions of sacrificial warfare in a dense and massive symbolic exposition. Upon the temple front, the sun disk is flanked by figures in profile symbolizing the day and night skies in the divine persons of Tezcatlipoca and Huitzilopochtli. The stairway ramps, and the flat surfaces on top of the temple and in front of it, are carved with sacrificial symbols: vessels for the hearts of human victims (cuauhxicalli); the crouching earth goddess shown as a skeletal toad; the ball of cactus fibre for the sacrificial needles.

On the pyramid sides, and as if supporting the temple platform, are the figures of four gods shown as penitents – the gods whose self-sacrifice set the sun in motion. On the rear, an eagle alights upon a cactus bearing fruit of human hearts. This scheme not only represents Tenochtitlan; it symbolizes day and night skies, as well as war for the

sake of sacrificial victims. The figures of the six gods and of the eagle all bear speech-scrolls signifying war. The pyramid explains human sacrifice and ritual war in terms of the repayment of the divine sacrifice whereby the present universe was set in motion.

Many ritual instruments carved of stone display these same cosmic symbols, always buttressing the central ritual of human sacrifice to maintain the gods and, through them, the universe. The 'eagle vessels' (cuauhxicalli) were used to hold the hearts of human sacrifices (Plate 16B).<sup>58</sup> The earth toad on the base, the glyph of the present universe in the bottom (nahui ollin = Four Motion, a day sign), stylized eagle feathers on the sides, human hearts on the rim, and signs signifying 'jewelled water' (blood) embody the litany of human sacrifice. The slowly curving surfaces and the incised contours, reduced to ideographic clarity, all betray the persistence of the ancient technique of carving stone with stone tools.

These forms, produced more by splitting and abrasion than by cutting, recur in the rare wood carvings of Aztec date that have survived. The standing wooden drum from Malinalco (Plate 17A) portrays eagles and tigers in two registers of crisp and linear relief carved by stone tools. As on the stone model of the Pyramid of Sacred Warfare (Plate 15B), the dancing eagles and jaguars have speech-scrolls signifying war. This theme of interlacing streams of water and fire (atl-tlachinolli) also separates the two registers. The dominant glyph of the drum is the four ollin sign of the present sun or age of the universe, so that sacred warfare is again the theme carved by an artisan in whose work ancient tradition, ecstatic participation, and virtuosity of technique combine in figured surfaces of changing rhythms. The scale of the registers and the size of the forms are carefully chosen to give a full image from any point of view, and an image that has authority from a distance.

Other instrumental forms are funeral masks which were tied to the mummy bundle. An example in the British Museum (Plate 18) represents a round-headed man, wearing disk ear-plugs, with the mouth opened in a circle repeating the form of the face and ear-ornaments. The eyes are narrow crescent-shaped slits. On the reverse appears a seated relief figure wearing an ornate hat, flanked by weapons, and bearing a staff. His face repeats the rounded forms of the front, and has a puffy and flaccid expression. It represents a south Mexican ritual of growth and vegetation, associated with the cult of the god Xipe Totec ('Our Lord the Flayed One').

In the spring months, at planting time, a youth chosen to represent Xipe was sacrificed and flayed.<sup>60</sup> His skin was then worn as a costume by a living person, in a symbolic enactment of the live seed within the dead husk, designed to induce and compel the renewal of the earth's fertility. In the Valley of Mexico, a terracotta figure, nearly lifesize, and of Toltec date,<sup>61</sup> is among the earliest expressions of this cult, which originated in Oaxaca and on the Pacific coast of southern Mexico.

This is the rite portrayed in the funeral mask. The sculptor's task was to represent not only the dead outer skin, but also the firm, live flesh of the wearer underneath. He achieved it by blurring the structure in the eyebrows, by flattening the nose, and by loosening the plane of the eyes, while stretching the contours upon the firm structure of the imagined wearer, like a mask upon a mask.

The statues of the gods, whether standing, kneeling, or sitting, reflect this masked interpretation of the god and his human representative. The god manifested his presence through an agent clad in godly attributes, who, during the festivals of the god, mingled with the people. Thus he was a living and moving cult image, of which the stone replicas were immobile representations, kept like capital reserves in the vault-like temple chambers. The full-round statues of the standing or kneeling Xipe Totec are the most obvious examples of the cult image that was both alive and inanimate, of the statue circulating among the people as a token of future growth (Plate 19). The edges of the skin, the stitched seams at the heart incision, and the tie-strings at the back fastening the skin garment upon its live wearer are portrayed with an obsessive fidelity, recalling the careful images of knots and binders on the colossal caryatids of Tula.

Since clothing is symbolic of the magical alteration of reality, these layers and attachments pertain to magical compulsion through the change of appearances. The extreme elaboration of costumes and their accessories, both in the written post-Conquest sources and in the sculpture, have long been used as the principal evidence of Aztec religion. Knowledge of this religion centres upon fixed attributes such as skirt-forms, hair-styles, jewellery, and face-paint, by which the interpenetrating identities of the gods can be known. These identities reflect the history of the Aztec conquests, with many cults surviving from older civilizations alongside the new tribal versions of the Tenochca immigrants. The earth goddess is an example: different tribal and historic forms of her double cult, both life-giving and life-destroying, can be identified. These various tribal images overlap with other conceptions of fertility gods and lunar deities, in protean confusion.<sup>62</sup>

The truth is that we are ignorant of all but the main outlines of Aztec religion. Popular worship and priestly lore were different. The priesthoods were concerned with political power; for the monarch was a priest, and the state was served by the performance of religious duties. The confused and confusing notices of Aztec religion collected during the sixteenth century by Spanish scholars from native sources suggest that Aztec political life in its entirety unfolded within the rituals and ceremonies of the festival calendar, under the direction of priestly corporations with conflicting interests and ambitions. Yet it is misleading to suppose that religion was merely a mask for politics. The conceptions were mingled: political rights and religious rites contained each other completely in Aztec mentality, and the occasions for separating them never occurred to these stone-age shamans, among whom the use of metals was still restricted to ornament, and to whom human sacrifice ensured the continuation of being.

The primitive character of Aztec tribal life found its most tremendous expression in the gigantic stone figures called Coatlicue (serpent-skirt) and Yolotlicue (heart-skirt).<sup>64</sup> Both are variants of a decapitated earth-goddess figure peculiar to the Tenochca tribe, who introduced her cult to the Valley of Mexico as the mother of the war-god, Huitzilo-pochtli. Two great rattlesnake heads confront each other on top of the figure, as if arising from the headless trunk (Plate 20). Serpent fangs adorn her shoulder and elbow joints. She wears a necklace of human hands and hearts. The skirt in one version is woven of serpents, and of hearts in the other. Front and rear views are notably different, not only as images, but also in tectonic effect. The front leans over the spectator as if

about to topple upon him. The rear view slopes away from him like a mountainside. The profiles have cave-like recesses under the elbows that once again suggest a geological phenomenon rather than a work of art.

Less forbidding than the cult statues, and more directly expressive of the moral tone of Aztec life, are the sculptural images of men, animals, and plants. Among the figures of humans, many allude to the deities invoked by the actions shown. The stone parturition figure (Plate 21) has a calendrical meaning, for the birth of a time-period is represented, 65 at the same time as a woman in childbirth – the equivalent in Aztec belief of a warrior capturing a sacrificial victim. The figure was endowed by the sculptor with deeply expressive particulars conveying the pain and nausea of parturition. The greenish stone has a surface like skin in cold sweat. The tendons of the neck stand out in a grimace of pain. But from her lap a full-grown man's head, the symbol of a new time-period, emerges into life. The piece unites the domains of observation, of expression, and of calendrical ritual. 66

Expressive power was the distinctive attainment of Aztec sculptors. Their faculty of charging the particulars of experience with clear and coherent emotional tone is most apparent in images of plant and animal forms. An organ cactus, a gourd, a grasshopper, a dog, a hyena, a tiger (Plate 22), or a serpent's coiled body are examples of this art of seizing the most vital aspect of each species. The portraits of humans represent either dead people or people in attitudes of suppliant surrender. An example of the first is the large diorite block representing the severed head of Coyolxauhqui (Plate 24), the sister of Huitzilopochtli. Another is the (severed?) basalt head of a warrior, which belongs among the great sculpture of the world. This head (Plate 23A), larger than life, conveys the sacrificial burden borne by Aztec humanity, in the belief that through sacrifice the continuation of the universe might be assured. Among the portraits of the living the figure of a kneeling woman in basalt (Plate 23B) submissively awaits her destiny. The posture, as in many other Aztec statues, expresses the passive compliance of humans whose death was required in order that the gods might live to endow the earth with renewed vitality.

The lapidary arts concern only small specimens of fine workmanship, because of the rarity and minute size of the raw material. Stones like chalcedony, jasper, obsidian, agate, quartz, and hematite were all valued for weapons and cutting tools more than as ornaments, though jadeite and turquoise were prized for colour. American jadeite comes in water-worn pebbles from alluvial deposits.<sup>67</sup>

In Aztec society, Xochimilco was the principal centre of lapidary crafts. Rock crystal, amethyst, and jadeite pebbles were shaved to size with flint adzes. The surfaces were polished with abrasive powders, bamboo fibres, and tools of hardened copper. For drilling, the work was mounted in a clamp of bamboo, and perforated with tubular bits of copper or of bird bones. Certain hard flints from Toluca were favoured for working turquoise. Opal was polished with sand.<sup>68</sup>

The work of the Aztec gem cutters obeys the stylistic lead of monumental sculpture, with a conservative character that also marks the precious arts of other civilizations. For instance, a jadeite head of Coyolxauhqui 69 in the Peabody Museum at Harvard Uni-

#### THE VALLEY OF MEXICO AFTER A.D. 1000

versity copies the forms of the giant diorite head in the National Museum in Mexico City (Plate 24). Aztec metalwork is likewise retardataire. The rare examples of goldwork, such as a statuette of Tizoc,<sup>70</sup> that have survived the Conquest are derivative from Mixtec models and from the forms of monumental sculpture or from manuscript paintings.

# Painting

Pre-Conquest Aztec paintings survive only in a few murals, in ceramic decoration, and in featherwork ornaments. We have no certain early specimen of Tenochca manuscript painting. All the painted books <sup>71</sup> known to come from the Valley of Mexico are now accepted as colonial documents, more or less remote from native tradition. Aztec pictorial conventions are nevertheless easily defined; for they continue the tradition of the murals of Teotihuacán and of south Mexican manuscript painting, and they differ fundamentally from European conventions. <sup>72</sup> We may reconstruct the lost bookpaintings of Tenochtitlan and Texcoco only by referring to surviving manuscripts produced before the Conquest (Plates 52–5) in the region bounded by Cholula and Oaxaca (the 'Mixteca-Puebla' territory), and by using post-Conquest illustrations which retain native tradition.

As among all peoples to whom complete writing was not available,<sup>73</sup> a double burden of representing and of signifying fell upon painters and sculptors. Pictures were expected, in effect, to carry the whole burden later taken by writing. Hence the painter's conventions gave conceptual images rather than visual impressions of things. The earth (Tlaltecutli) was shown as an open-jawed monster rather than as a gentle or stormy landscape, and certain other conventions for the earth were equally remote from any visible aspect of the thing meant. The morphology of such paintings shows no fundamental changes until the Conquest: the styles vary as the different civilizations change and vanish, but the formal scheme common to Maya and Mexican paintings always remained the same.

This scheme, like dynastic Egyptian drawing, consisted of uniformly coloured areas with unvarying linear boundaries, describing only the most easily recognizable silhouettes. The Sometimes a profile is selected; sometimes a frontal view; sometimes front and side views are compounded to give an organically impossible but conceptually clear representation of body motions. Hollow objects and places are shown in cross-section to indicate their interiors. Thus a lake, a boat, or a pot are shown as U-shaped forms; caves are shown in schematic section; houses are rendered as D-shapes to indicate support, load, and interior space all at once (Plate 52A). The lower frame of the picture, or of the register, generally equals the ground line, and the upper frame is the sky. The bottom may also be read as near, and the top as far distance. Figures may overlap without marking any intended distance in depth. Distances among shapes are always signified by intervals in width or in height, and never by perspective diminution in an imaginary third dimension (Plate 54B). Three-quarter views and foreshortening were never employed. Gradated tones to indicate roundness or shaded forms were also never used. A change in colour usually signifies a change of symbol. The compositional schemes

always associate the general ideas of things, and they never purport to describe visual entities under instantaneous conditions. Compositional movement over the surface of many-figured scenes usually means movement in time. Radial compositions generally mean rotating sequences in time, as when the four quarters of a panel or page illustrate calendrical periods by identical figures wearing different colours and costumes (Plate 55A).

The murals of the capital were destroyed when the city was besieged, and then rebuilt. Our only examples of Aztec wall painting come from the eastern and western boundaries of the central region, from Tizatlán, near Tlaxcala, <sup>75</sup> and from Malinalco (Plate 26A). These fragments demonstrate the eclectic character of Aztec wall painting. The mural at Malinalco shows three warriors or hunting deities. <sup>76</sup> The proportions and the details of costume relate them to Toltec traditions, as in the columnar figures at Tula. The Tizatlán altars <sup>77</sup> are decorated by small-figure panels (Plate 26B) derived from Mixtec manuscript traditions.

This eclectic situation in painting parallels the variety of metropolitan sculptural styles. The great difference is that the components of Aztec sculpture seem to cohere in the attainment of expressive power, while the paintings adhere faithfully to older traditions, especially in the case of the Tizatlán wall decorations, without a recognizable Aztec reformulation. The Tizatlán figure of Tezcatlipoca, 35 cm. (14 inches) high, is like a page in the Codex Borgia (e.g. p. 21), which in turn is related to south Mexican manuscripts of Mixtec origin (p. 102). Other scenes at Tizatlán, showing deities near bodies of water, also recall the Codex Borgia (e.g. p. 14, ed. Seler-Loubat).

The pre-Conquest schools of Aztec manuscript painting continued long after the Spanish destruction of the libraries, until European conventions of draughtsmanship replaced the native ones. This replacement had already occurred when Indian artists illustrated the ethnographical manuscripts of Fray Bernardino de Sahagún, about 1560. At least two principal styles are known. The manuscripts illustrated with large figures in a more or less cursive style may be ascribed to artists trained in the church schools of the Franciscans at Tenochtitlan and Tlaltelolco. Another early colonial style, of extremely small, glyph-like figures, has been assigned to Texcoco, the Chichimec capital of the fourteenth century on the east shore of the lake. Codex Borbonicus and Codex Telleriano-Remensis are examples of the style of the capital. Codex Xolotl (Plate 12A) or the Codex en Croix exemplify Texcocan style, which is less animated and more schematic than that of the capital, but closer to Mixtec antecedents.

It should be remarked that the term 'codex', signifying a gathering of leaves sewn or glued together at one side, is often misused in Mexican studies. Codex Borbonicus, for instance, is better described as a screenfold. Its pages are hinged alternately left and right, opening like accordion pleats. Several readers may open in different places at once. Separated passages may easily be brought together for comparison. The pictures are not limited to single pages, and may spread over many panels. The pages often divide into registers arranged in a meander pattern that marks time and imposes direction.

The picture-books of Aztec date, whose existence may be deduced from early colonial versions and from pre-Conquest Mixtec examples, were of several sorts. One group, called Tonalamatl, or 'book of days', served to make astrological forecasts on a ritual

calendar of 260 days. Certain manuscripts in this group also illustrate the monthly festivals of the solar year. Codex Borbonicus contains pages devoted to both calendars. Its 260-day calendar is like those of the Codex Borgia group (Plate 55B), which belong to the Mixtec stylistic province south and east of the capital.

A second class of native documents illustrates genealogical sequences, reporting the marriages, issue, and domains of the principal lineages. Codex Xolotl (Plate 12A) is an example of the Aztec recension of Chichimec lineages along the lines of the Mixtec genealogies of pre-Conquest date (p. 100). The pictorial annals, which describe yearly events in numbered sequence, are represented by several variants: Codex en Croix gives fifty-two years radially arranged on each sheet. Codex Telleriano-Remensis shows a few years to a page, with the number of years per page varying inversely with the importance of the events chronicled. Finally there are administrative documents, such as Codex Mendoza, compiled in 1548 from pre-Conquest Aztec tribute lists for the guidance of colonial administrative officers, listing all kinds and amounts of payment, as well as the towns providing the tribute. All these manuscripts, with the possible exception of Codex Borbonicus, are of historical and ethnological rather than artistic interest.

The archaeological history of ordinary Mexican textiles is unknown because of poor conditions of preservation. Yet certain colonial manuscripts 82 describe a great variety of Aztec textile ornaments. Decorated shoulder-blankets were emblems of rank, and Aztec

tribute lists report the textiles produced in certain provinces.

Feather garments are luxurious examples of an art of painting characteristic of the last century of pre-Conquest life.<sup>83</sup> The craft of mounting feathers on cloth became common after Montezuma the Elder (1440–69) created the wide network of trade relations maintained by travelling merchants. The feather-workers lived in groups assigned to special quarters of the capital. One group manufactured the garments of the war god, Huitzilopochtli, another prepared only the gifts for Montezuma to present to his allies, a third group worked on Montezuma's own apparel, and a fourth on military insignia for the warriors. The feathers sent as tribute from distant provinces were both glued and tied to the cloth, in designs prepared by painters. The drawings on glued layers of cotton cloth and agave paper were cut out with copper knives, to serve as templates for the shaping of the feathers. The shaped feathers were glued to another cotton-and-agave support, in coarse and fine layers. These layers secured mixed tones in the colouring, which intensified the bold effects of the painters. An example in Vienna (Plate 25) shows a coyote of cotinga feathers, outlined in gold, on a pink ground.<sup>84</sup>

Painting on Aztec pottery from the Valley of Mexico is distinctly retrograde in comparison with the manufactures of neighbouring peoples, such as the decorated polychrome vessels of Mixtec derivation in the adjacent valley of Puebla. Thin-walled vessels on tripod legs, and bowls painted in cursive black designs on a brown or red ground, are the most common wares. Only a few late examples bear figural designs of birds, fish, and plants in loose brushwork. The appeal of the best Aztec pottery is tactile rather

than visual, as in the fragile quality of the eggshell-thin paste.

# CHAPTER 4

# THE GULF COAST

FROM south to north, the coastal plains with their dense forests can be divided into three archaeological regions.

- (1) The deltas of the rivers of southern Veracruz and Tabasco, on the gulf side of the isthmus of Tehuantepec. These were occupied by a branch of Olmec civilization, which had other manifestations from pre-Classic times onwards, in the Petén Maya district, at Monte Alban in Oaxaca, in the Guerrero and Puebla highlands, and in the Valley of Mexico.
- (2) Central Veracruz, including the Mistequilla district in the south. This is bounded on the north by the Pánuco river. The district about Cempoala was inhabited at the time of the Spanish Conquest by Totonac tribes. Their name is often, but inaccurately, used to describe the artifacts of the whole central region.

(3) The Huasteca territory, north of the Pánuco river. This is named from tribes speaking an archaic form of Maya, tribes who were separated from their Maya relatives during the first millennium B.C.<sup>1</sup>

The southern, or Olmec, peoples were most influential in pre-Classic times. The central coast was most advanced in the Classic and post-Classic eras. The Huasteca region produced its most distinctive forms of art under Toltec influence and later. The three regions are usually discussed together because of geographical and climatic similarities, rather than because of resemblance in culture. Indeed, the external relationships of the three regions were usually closer to the highland territories of central and southern Mexico, or to the lowland Maya, than to one another. The result is a chequered history, reflecting many cross-currents of migration and trade.

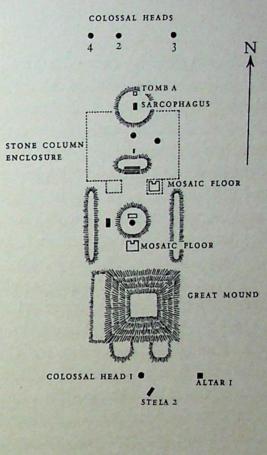
#### THE OLMEC STYLE

The term signifies the rubber-people, the dwellers in Olman. To the Aztecs, whose history is limited to the fifteenth and sixteenth centuries, the name signified an ethnic group strewn to the south, but it included many tribes and several historical transformations, which have still to be elucidated.<sup>2</sup> Archaeological knowledge of Olmec culture is restricted to the Formative and Classic periods, especially in southern Veracruz and western Tabasco, on the sites of Tres Zapotes, La Venta, and San Lorenzo.<sup>3</sup> Like the art of Teotihuacán and of the central Maya peoples, Olmec art is a recognizable and definable entity. It appears in the highlands of Guerrero, Oaxaca, and Puebla, as well as in the Valley of Mexico. Traces of it are evident in the earliest monumental art of the central Maya. The style centres upon anthropomorphic representations of jaguars (Plate 28A), in sharp contrast to the Maya and Mexican highland preoccupation with plumed serpent

forms (Plate 8A). It is fundamentally a sculptural style, unlike Maya art, of which the technical origins may be supposed in painting and drawing. The representation of vigorous motions of the body is fundamental. A distinct ethnic type is commonly represented, with pear-shaped heads, thick everted lips, broad noses, and elliptical eyes (Plates 29, A and B, and 30).

The earliest dated examples of the Olmec style are jaguar-faced pottery vessels from Monte Alban I in Oaxaca. These date from about 645 B.C. Tres Zapotes archaeology spans the millennium from c. 400 B.C. to c. A.D. 600, in pre-Classic, Early Classic (A.D. 0-300), and Late Classic periods. La Venta flourished in pre-Classic times. No Olmec site is known to have existed as such in post-Classic times, after the appearance of metallurgy and plumbate (lead glaze) pottery.

Olmec architecture is known only by lowland gulf coast sites. At La Venta (Figure 16), the excavations have uncovered part of a large ritual assembly of pre-Classic mounds and enclosures with deep occupational deposits. These indicate a small resident population, supported by dispersed farmers for whom the buildings served as a religious and civil centre. It probably housed only the priesthood, or temple corporation. La Venta stands on an island in the Tonalá river among the mangrove swamps of northern Tabasco. The principal elevation is a pyramidal mound about 330 feet square and 100 feet high, facing the cardinal points. The north face overlooks two courts. The first is framed by parallel mounds lying north and south. The second or northernmost court was a sunken rectangle paved with coloured clays and fenced with close-set pillars



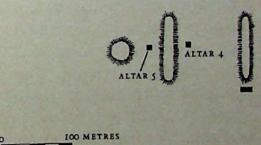


Figure 16. La Venta. Plan c. 300

of natural columnar basalt. These were probably brought by raft from volcanic quarries about 60 miles to the north. Two platforms flank the south entrance to the sunken court; the eastern one is floored with a mosaic of serpentine slabs and coloured clays, representing, when inverted, a jaguar mask (Plate 27A). The circular mound on the north side of the sunken court covered an elaborate tomb lined and roofed with basalt columns. As if guarding the approaches to this nucleus of enclosures and mounds, four colossal heads of basalt (Plate 29B) faced out from the precinct like apotropaic figures. The northern row of three heads faced north, and the south head looked south.

Two sharply contrasting modes of sculpture appear on the Olmec sites. One tradition, represented by the mosaic floor, approaches cipher-like abstraction. The other, exemplified by the colossal heads, is a tradition of veristic sculpture leading to the most faithful possible transposition of appearances.

## Instrumental Forms

The abstract designs all resemble glyphic notations: for convenience we shall speak of them as the ideographic mode. Altar I and the stone sarcophagus (Plate 27B) of La Venta (Monument 6) are monumental examples. Altar I is a cubical stone about 6 feet high with the tiger features gathered upon the flat front. Wing-like head-dress panels spread symmetrically over the sides of the block. The general form resembles the stucco masks of the pre-Classic pyramid (Chicanel period) at Uaxactún. The wings repeat a motif used at Tlatilco in the Valley of Mexico.<sup>4</sup> The oblong eyes with rounded corners are like the signs used in Olmec jade-carvings. The mask on Monument 6 closely resembles the pottery masks of Monte Alban I. At Tres Zapotes, Stela C bears a tiger-mask of the same abstract design. This mask is even more geometric in the mosaic floor (Plate 27A) of La Venta. Stela C bears numbers written in Maya notation. They have been identified as referring to the third century B.C.<sup>5</sup>

Further examples of the ideographic style are common in the statuettes and jade celts found throughout the highlands of Guerrero, Oaxaca, Chiapas, and Puebla (Plate 28, A and B).<sup>6</sup> The use of jade is pre-Classic, as is the technique of shaping and carving the surfaces, which is evident in Olmec figural celts.<sup>7</sup> Two distinct personages are shown on these stone knives. One is an almond-eyed man-jaguar, wearing a helmet like the colossal heads, and having feline fangs protruding from thick and everted lips. The other personage is a slit-eyed infant, characterized by toothless gums within the same everted and trapezoidal mouth, as well as by a split skull, cloven sagitally in frontal representations, and transversally in profiles. This 'baby-face' image on jade celts usually displays tufted, flame-like eyebrows. Only one baby-face celt appears at La Venta.<sup>8</sup> The two personages become one on the Gulf Coast sites: Monument 10 at San Lorenzo shows a seated figure with cleft skull and jaguar teeth. The stone box (Monument 6) at La Venta has flame eyebrows, oblong eyes, and jaguar fangs (Plate 27B).

The ideographic mode of the Olmec style may be native to the highland regions of Oaxaca, Puebla, and Guerrero. It was not dominant on the lower Gulf Coast. The resemblances between this style and the pre-Classic material at Uaxactún, Tlatilco, and Monte Alban I strongly suggest that it precedes the naturalistic style of the colossal heads. Its forms, which recall line engravings on close-grained wood (Plate 35B), and ribboned planes of relief as in wood-carving, may owe their origin to a vanished early art of shallow sculpture in tropical woods. 10

#### THE GULF COAST

# Colossal Heads

Accurate anatomical relations and visually faithful modelling are the distinguishing traits of the colossal heads. Ten are known: one at Tres Zapotes (Plate 29A), four at La Venta, and five at San Lorenzo (Coatzacoalcos river). Those at La Venta and Tres Zapotes are still in their original positions. The San Lorenzo heads were long ago discarded and rolled into the steep ravines surrounding the site. They probably once stood, like the head at Tres Zapotes, upon foundations of unmarked stones. All may once have been coated with smooth purple-red paint on a white clay base, of which traces survive on part of the north-west head (No. 4) at La Venta.

The ten heads show a clear development through two, and possibly three, generations of sculptors, working with stone tools, repeating the same theme with increasing skill and power. Two heads are almost spherical, and nearly devoid of animation: Tres Zapotes and La Venta 1. The first seems arbitrarily rotund, with the features protected from accident by the beetling projection of the helmet across the brow and along the cheeks. The eyes are rimmed with heavy borders, and the eyeballs have an extremely convex curvature. The ears are abstract ciphers. The expression is grim and hard, without the supple modelling of all the other heads. La Venta 1 is also spherical, but the helmet meets the face in a less harsh line. The modelling of lips and eyes, though puffy, is more vivacious.

A second group of four is distinguished by parted lips, communicating an expression of speaking animation. Two in this group are spherical, and two are long-headed. The long heads (La Venta 3 and San Lorenzo 2) are more lively than the round heads (La Venta 2 (Plate 29B) and 4). La Venta 3 has deeply shadowed eyes and lips, suggestive of emotional tension, as in Greek sculpture under the influence of Scopas. The round heads (La Venta 2 and 4) are perhaps more animated in the open mouths, but the total effect of an inner emotional state is less apparent.

The final group consists only of heads from San Lorenzo (Nos 1, 3, 4, 5; Plate 30). Only San Lorenzo 3 is round-headed. All four have the iris incised upon the eyeball, in a commanding expression of focused gaze. All are like ideal portraits expressed in firm flesh, heavy muscles, and articulated profiles. An effect of majestic willpower and discipline is achieved by studied proportions and contours, in a composition of idealized

physiognomic parts.

This sequence places round heads of grim aspect (Plate 29A) earlier than long heads of majestic expression (Plate 30). The intermediate group of long heads and round heads is characterized by parted lips (Plate 29B). Tres Zapotes antedates La Venta, and San Lorenzo is terminal in the sequence. Such a progression probably required no less than one century of connected efforts by specialized craftsmen giving all their time to the work, possibly with interruptions of undetermined length. The span is not easy to date, but it must fall within the time-range of La Venta, probably near its end, with the San Lorenzo heads being carved after the end of the ceramic record at La Venta. This gives us a position roughly contemporary with the Tzakol period of the lowland Maya region (first to fourth centuries A.D.), probably nearer its end. We shall provisionally fix the period around A.D. 200–300.<sup>12</sup>

# Relief Sculpture

This proposed sequence places instrumental forms with engraved or carved ideographic figures prior to the colossal heads. Between the two, an intermediate group of reliefs with complicated spatial and symbolic compositions can be fitted. It includes ambitious pictorial reliefs which may have been contemporary with the later colossal heads.

At Tres Zapotes, Stela D (Plate 31) is an example of the relief sculpture that was possible in the Maya centres only during the last century of Cycle 8, i.e. in A.D. 30–150. The three standing figures are framed within the jaws of an animal mask. Their kneeling, standing, and striding postures show the legs in separated profile, and the torsos in frontal view, as on the Leyden Plate and in the Cycle 8 reliefs from Uaxactún. <sup>13</sup> Stela A from Tres Zapotes presents a similar formula beneath a stylized jaguar-mask of Olmec type.

Six immense altar stones show a spirited enlargement of the possibilities of portraying space and action in relief. Four are at La Venta, and one each at Potrero Nuevo and San Lorenzo. Altars 4 and 5 are the best preserved, with human figures emerging from rounded niches beneath the flat top. On Altar 4, a carved rope connects the seated figure in the niche with another seated figure in profile relief at the side. On Altar 5 (Plate 32A) the emerging figure bears a reclining infant. The four seated figures on the sides restrain dwarfs or infants of Olmec profile, with slit eyes, everted lips, and deformed or notched skulls. Seated reliefs of this type do not appear in Maya sculpture until about 350,14 which is late for La Venta. Possibly La Venta was an early centre for such experiments. If so, the altars may be of about the same time as the early colossal heads.

Vigorous body motions are most ambitiously combined on Stelas 2 and 3 (Plate 33) at La Venta. The principal figures are on stiff parade, but they are surrounded by flying or leaping jaguar- and bird-men, strangely evocative of those on Mochica pottery. They bear axes or poles and wear armour. In Maya reliefs, these animated secondary figures were common during the Early Classic period (first-fourth centuries A.D.). The ornate basalt box from Tres Zapotes, with armed warriors of this type, shown fighting among serpent scrolls, In probably belongs to a terminal phase of Olmec sculpture. The serpent theme with scalloped outlines pertains to Mexican or Maya iconography, and not to Olmec.

# Figurines of Clay and Jade

The ideographic style was perhaps an importation, intruding upon an archaic local tradition, brought to the Gulf Coast from the highlands of Guerrero, Oaxaca, and Puebla. This suspicion is reinforced by study of the styles of the figurines which fill the entire archaeological record of Tres Zapotes and La Venta.

Drucker distinguishes three technical varieties of clay figurine manufacture: with features made by punching, by slitting, and by modelling.<sup>17</sup> All the figurines show a stem, to which the face plane was joined. The turban or hair is a third piece, added to cover the joint between the stem and the face. Common to nearly all Tres Zapotes and La Venta figurines is a vivacious convention for the eyes, with deep central punctations at the iris, flanked by triangular punches. Each eye is an inverted V, so that the glance is

upward or to one side (Plate 32B). As these techniques of figurine manufacture occur in the lowest strata of the Tres Zapotes excavations, they antedate the monumental stone sculpture. They show nothing of the linear abbreviation and shorthand pictorial symbolism of the ideographic manner. They are related, however, to the colossal heads. The group with parted lips, in particular, and the heads of San Lorenzo with incised iris and upward gaze (Plate 30), clearly belong to the tradition of the figurines with animated gaze.

The broken fragments of bodies <sup>18</sup> belonging to the figurine heads likewise give a clue to the history of the jade carvings, which show such mastery of bodily motions and anatomical relations. Several seated figurines show a remarkable equilibrium of weights and motions. The legs are folded in under the seat; the upper torso leans forward, with the hands grasping the knees. The front view is oblong, the profile is triangular, and the ground plan is trapezoidal.<sup>19</sup>

The jade figurines of La Venta, from the tomb lined with basalt columns, are certainly pre-Classic in date, like all the La Venta sculpture. One represents a seated woman, with a small hematite mirror mounted on the chest. This is carved of whitish jade mottled with blue-grey patches (Plate 34A). The other figure, of green and white jade, shows a dwarf-like male, modelled in supple planes and resembling the physical type of the Olmecs shown in the ideographic versions. More stereotyped are the standing jade figures, with undifferentiated arm and leg endings and an undulant body profile, like a warped slab. These La Venta jades may come either from different periods (as heir-looms?), or from different workshops of greater and less refinement during the same period. Their appearance together in the same deposits shows a general La Venta style of jade working.

They raise the question of the mutual dependence of the clay and jade traditions of figurine manufacture. Certainly the clay figurines are an older tradition, but they are so hastily made, and so conventional (Plate 32B), that one is reminded of the diminutive replicas of famous monuments executed in ordinary materials which pilgrims or tourists acquire as souvenirs of travel today. Indeed most clay figurines from La Venta and Tres Zapotes can be loosely associated with a corresponding piece of monumental sculpture or with a jade carving. The types are few, and the general style is the same.

The relationship between the makers of clay figurines and the sculptors of stone and jade must have been one of reciprocal exchanges. The clay figurines came first. In Early Classic centuries, the sculptors and lapidaries acquired the technique for translating the postures and expressions of clay figurines into stone and jade. These new forms of monumental or jewel-like character then affected the work of the artisans in clay, who cannot have avoided making diminutive replicas of the colossal heads and jade statuettes.<sup>20</sup>

Olmec culture on the Gulf Coast is marked by a preference for permanent materials: in a region of tropical hardwoods the ceremonial court and the principal tomb of La Venta were walled about with basalt columns. The colossal heads manifest a pharaonic desire for eternity, for physical survival beyond all the accidents of time.

But basalt and jade not only induce permanent form; they permit the sculptor to investigate kinds of form that are not so easily available to the potter. The brilliance and

deep translucence of polished jade called for a special organization of the surfaces, by curving planes smoothly passing around the shape. At the other extreme, the Stone Age sculptor could experiment with visual effects of skin texture and muscular interplay only when working on the colossal scale of the great basalt blocks. Working in jade and basalt, the Olmec sculptors gradually learned a most extraordinary realistic technique. Three jades in the Bliss Collection demonstrate this stage of lapidary art: the fragmentary head and shoulders of a middle-aged woman (Plate 34B), and the statuettes, in boxing poses, of a jaguar and of a middle-aged gladiator (Plate 35A). The woman is shown as if sobbing, with dilated nostrils and furrowed brow. The translucent surfaces enhance an expression of deep emotional disturbance by their suggestion of wetted skin. The bald athlete has the musculature of a hominid; his belly and forearms are lined with bulging veins, and his posture is aggressive. The blackish-green colour and the opaque brilliance of the stone reinforce the expression of bestiality and violence. The statuettes are surely Olmec, and they are probably late, perhaps related to the San Lorenzo heads. Another Olmec statue of this category is a bearded and seated athlete, less than life-size (Plate 36). The spiralling motion of the body, the multiplicity of profile, the coherent muscles, and the expressive restraint of the work set it apart as among the great works of sculpture of all ages. In it several kinds of technique meet: the study of expression possible in jade; and the study of movement possible in clay.

Miguel Covarrubias,<sup>21</sup> the Mexican painter, alone ventured to interpret the conventional meaning of these forms. He believed that the figures of jaguars, dwarfs, and babies were stylized representations of an 'Olmec ethnic type' of Asiatic origin and of great antiquity, modified by pathological, infantile, and feline traits. According to Covarrubias the figures may represent jungle spirits, called *chaneques* by the modern inhabitants of the Veracruz coast. The *chaneques* are mischevous old dwarfs with baby faces, who play pranks on human beings and provide rain if propitiated. In the tigertraits Covarrubias sees a totem symbol,<sup>22</sup> perhaps related to later Mexican cults of a tiger as earth god and symbol of the night. On these assumptions, Covarrubias constructed an iconographic genealogy, progressing from the archetypal baby-face to Maya serpent-masks and the Aztec rain god. The flame-like eyebrows of the Olmec faces became the eye-rings of the Maya and the Mexican rain-god figures, Chac and Tlaloc. Covarrubias lays much stress upon the intrinsic simplicity of the Olmec style. Maya, Zapotec, and Teotihuacán styles, he maintains, all show Olmec traits in their oldest artifacts,<sup>23</sup> but Olmec art contains the traits of no other styles.

Other students contest all these assumptions, preferring to regard Olmec art as of Early Classic or even post-Classic date. Indeed no jade or stone carving in the Olmec style can be given a pre-Classic date beyond doubt. Of a hypothetical ideographic style on wood and hide, preceding the ceramic and sculptural productions, there is now no physical trace. As for the priority of Olmec jaguar symbols over Maya and Mexican serpent symbols, the evidence is still inconclusive. Two coeval and independent systems are quite as plausible.

Certain parallels may be drawn between Olmec and Chavín art in the Andes. Both represent anthropomorphized feline monsters by incisions and flat low reliefs of ideo-

### THE GULF COAST

graphic character. Both use few fundamental forms. In both there is a peculiar convention of ending or articulating an organic form with smaller repetitions of the same organic form. For instance, the profile baby-face on a jade plaque (Plate 35B) has the same profile repeating on the forehead and in the skull. It is repeated twice more on the cheek. The main profile not only contains itself at various places; it is built up of connected repetitions. The same method appears in Chavín art, where a feline body may consist of jointed and repetitious statements of a profile feline mask (Plate 126). The Chavín style surely has pre-Classic origins. Objects in the Olmec style are clearly pre-Classic in Veracruz and at Tlatilco and Monte Alban.24 Both styles are probably related to the same kind of social organization, in which the earlier villages of farmer-artisans were brought under the control of priests. In such theocracies, stratified into peasant and hierarchic groups, the priests shaped and defined a life increasingly ruled by auguries and sanctions. Temple corporations, holding and manipulating the wealth of the new ritual community, were probably the characteristic political institution. The style sponsored by the temples shows an aversion to everyday secular experience. It suggests terror and awe by monstrous forms. This art not only illustrated a cosmology: it was an evangelical method of instruction. Under the economic order of the temple theocracy, specialized and professional artisans came into being. The colossal heads and the jades can have been carved only by professional sculptors relieved from all other work, and maintained by the community.

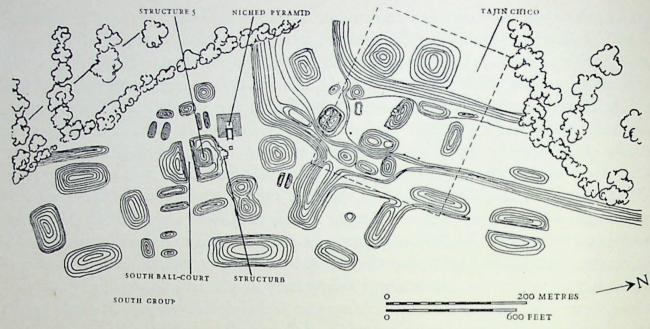
# THE CENTRAL COAST

The region from the Mistequilla to Papantla – from the sandy coastal plain south-east of Veracruz to the tropical forest 120 miles farther north – is usually identified as the seat of the Totonac civilization.<sup>25</sup> The only historical notices of this people, gathered soon after the Conquest, make it clear that the Totonacs then lived only in the southern district between the Tuxpan and Antigua rivers. No clue survives as to the identity of the peoples occupying the northern sites during the Classic era. For these reasons it is less misleading to refer to the region by chronological terms – Classic Veracruz, and post-Classic – than by ethno-historical names of doubtful relevance. This usage excludes Olmec sites in southern Veracruz. It embraces both central and northern Veracruz as the central sector of the Gulf Coast, spanning the region between the Papaloapan and the Pánuco rivers.

# Architecture

Tajín, near Papantla in the north, is an archaeological centre of the same order of magnitude as Uxmal, Monte Alban, or Copán.<sup>26</sup> Neither plumbate nor X-Fine Orange wares appear,<sup>27</sup> so that a closing date before A.D. 900 seems warranted. The oldest ceramic finds at Tajín relate its early history to the close of Teotihuacán II and the beginning of III,<sup>28</sup> that is c. A.D. 300.

In plan Tajín comprises two distinct zones (Figure 17). The southernmost group of



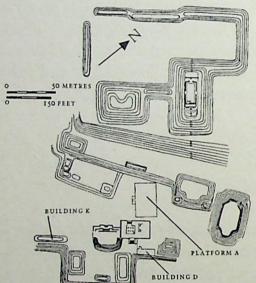
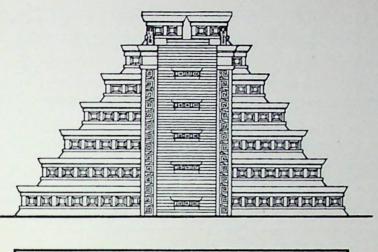


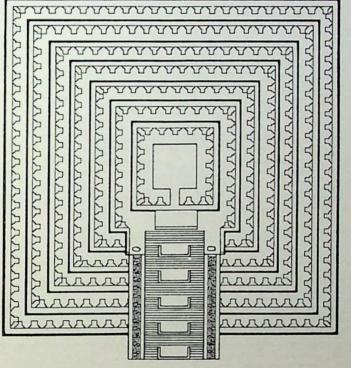
Figure 17. Tajín. General plan, with inset of Tajín Chico, c. 900

square and oblong platforms faces the cardinal points, and it includes the oldest constructions: the niched pyramid, a ball-court, and several terraced platforms. A late zone, Tajín Chico, lies on higher land north of the early edifices, and is orientated upon different co-ordinates. The main axis runs north-west to south-east, intersecting the north-south axis of the first group at an angle of about 60 degrees. This difference in orientation probably obeys topographic

limitations. All the newer platforms and buildings of Tajín Chico cluster along a shoulder of the north-western hill. On still higher ground is the latest building at Tajín. This columnar structure stands upon the platform dominating the entire system. Its chronological position at the end of Tajín is fixed by sherds in the masonry, of pottery from the older building-periods.

The square pyramid of Tajín (Figure 18) is probably the oldest edifice on the site, and it is the most imposing one, facing east, and rising in seven stages.<sup>29</sup> Each terrace riser is deeply shadowed by window-like niches in seven chain-like girdles, completely surrounding the pyramid on all four sides, and continuing beneath the eastern stairway, to number 364 in all. The nucleus of river boulders and clay is faced with small slabs of sedimentary rock. Upon these terraces, the superstructure of niches, built of flat sand-stone spalls, rises with slanted cornices casting deep and angular shadows. The niches are volumes of about cubical shape, over two feet deep, opening out upon the terrace risers by stepped frames of two or three reveals. In section one is reminded of the terrace profiles of Teotihuacán and Cholula (Figures 3A and 6). Here, however, the vertical face





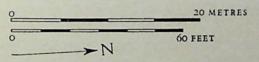


Figure 18. Tajín, principal pyramid, fourth century. Elevation and plan

is shadowed by the immense overhanging cornice, reflecting the talus as an inverted incline. The purpose is to enrich the composition of the shadows with animated rhythms, and to stress the vertical components in the silhouette. The slanting overhangs are like the re-curved eaves of Japanese roofs: the silhouette and the surfaces flicker with chequered shadows as the sun swings over the building.

The slanted cornice overhanging a band of niches reappears on other platforms in the older part of Tajín. At Structures 2 and 5, on the southern side of the main plaza dominated by the niched pyramid, the effect is different. The band of niches is like a jewelled belt encircling the platform. The standing cornice projects, while the talus below spreads

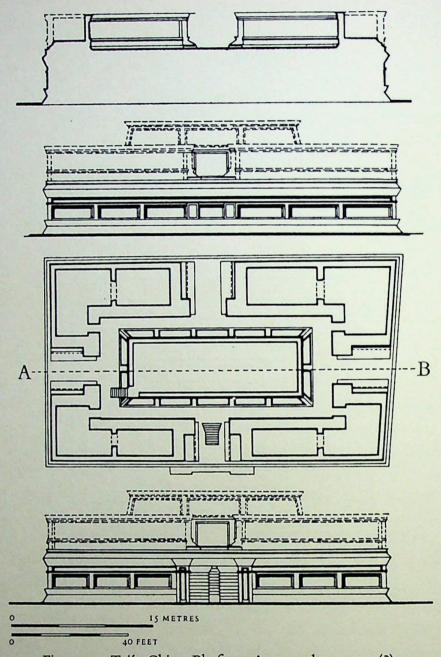


Figure 19. Tajín Chico, Platform A, seventh century (?)

out like a billowing skirt. Both the proportions and the vertical separations in the nicheband are altered to stress its horizontal continuity. This continuous effect reappears in the balustrades, worked with terraced meanders, flanking the stairs of the main pyramid.

Tajín Chico has much more complicated buildings, erected probably after A.D. 600. Platform A may be described as a pedestal, bearing a small truncated platform, in the centre of four two-room apartments (Figure 19). The scheme resembles the pyramid at Xochicalco (Plate 8A) in its exterior massing. The plan evokes the courtyard buildings of Mitla (Figure 23). In the south façade, a true stair-shaft rises within a symbolic façade stair of nearly vertical plane, flanked by the same terraced meanders as at the niched pyramid to the south. This symbolic stair resembles those of the Maya temples of the Río Bec area in the centre of Yucatán (Figure 44).

At Tajín Chico the resemblance of Platform A to Maya architecture is strengthened

### THE GULF COAST

by the massive roof slabs, now ruined, made of lime and pumice-stone poured like concrete on a temporary armature (Figure 19). At the façade stair, overhanging cornices of Tajín style meet over the stairway, to make a triangular arch-head like the corbelled vault section of the Maya. This device reappears on a larger scale in the facing of the immense courtyard opening eastward from Tajín Chico below the level of Platform A. The entire court is faced with alternating niches and Mayoid doorways, formed by the meeting profiles of adjoining niche-cornices. Buildings D and K, on the other hand, recall the battered profiles, geometric decoration, and trabeated interiors 30 of the 'palace' buildings of Mitla.

Everywhere at Tajín Chico, these resemblances both to Yucatán and Mitla appear. Such architectural efforts to compose elaborate inner spaces with ornate geometric exteriors, at Mitla, in the Puuc district and Río Bec in Yucatán, at Xochicalco and Tajín, characterize the centuries from the close of the Classic era until the rise of Toltec civilization, from about A.D. 600 until 900 or 1000. Tajín Chico stood on the periphery, receiving and transforming ideas of which the origins were both Maya and Oaxacan. The originality of the style of Tajín lies in the bold use of chiaroscuro effects, achieved by the flaring cornices, the deep niches, and the many planes of geometric ornament.

The most recent edifice of Tajín Chico is the columnar building (Plate 37) which dominates both its own western plaza and the entire sweep of the lower buildings. The east façade was a colonnade of six cylindrical shafts built of thin carved drums, supporting a gently curved vault of lime, sand, pumice, shells, and sherds. The stairway rising to this platform has stuccoed balustrades with rectilinear decoration derived from snake (crotalus) rattlers. The stair itself is flanked by retaining walls decorated with immense rectilinear terraced forms in deep relief. The scale and the proportions of this ornament were designed to be visible from great distances. The columnar edifice is separated from the earlier monument by many generations of connected experiments. These tended to enclose space more ambitiously, and to achieve brilliant chiaroscuro effects of surface with recessed geometric decoration.

Architecture of a presumed Tajín date on the central coast has been identified at Misantla.<sup>31</sup> The flaring cornices, imposed upon a sloping talus, simplify the Tajín formula, and prefigure the Aztec balustrades rising at a steeper angle near the head of the stairs. Beneath the Misantla stairway (Mound B) is a tomb on a T-plan in the core of the platform, like those of Mitla in Oaxaca (Figure 24).

Later than Tajín are the Totonac ruins of Cempoala, 20 miles north-west of Veracruz, where the Spaniards in 1519 saw a great Mexican city of 30,000 inhabitants. The ruins cover many courtyards, but only a few sections have been excavated.<sup>32</sup> Near by are sites yielding older remains: Ranchito de las Animas, with its clay figurines of Teotihuacán style, and Cerro Montoso, abounding in pottery of Mixteca-Cholula style.<sup>33</sup> Cempoala itself contains traces of archaic settlement, but its great period was as a Totonac centre, subject to Tenochtitlan, occupying a focal point on the trade routes connecting the coast, the highland, and Yucatán. The roomy, many-chambered temples recall Maya edifices; the wide pyramidal platforms resemble Cholula; and the stairway profiles are like those of Aztec design, with an abrupt change of angle near the top.

# Stone Sculpture

The oldest monumental sculpture on the central coast was discovered at Cerro de las Mesas in the Mistequilla region,<sup>34</sup> bearing dates of the type known as the Initial Series, with relief carvings related to Early Classic Maya. The dates (Katuns 1 and 4 in Cycle 9 – c. A.D. 160–220) and the style agree.<sup>35</sup> The profile stances of the figures, with the aprons shown in frontal view, are the principal evidence confirming the early dates on Stelas 6 (Plate 38A) and 8.

Two kinds of carving appear on these basalt stelas. The bounding profiles between the figure and the ground are vertical cuts. The inner contours are bevelled, showing overlapping planes in shallow depth; for instance, where the apron and the flesh of the legs meet. Conceptual clarity was the sculptor's first concern. The left hand of the figure is correctly shown, but the right palm turns out with fingernails showing, like another left hand, in an anatomically impossible position. In effect, both hands show palms and fingernails as if in a simultaneous cubistic image of different body-states. All accessories are preternaturally enlarged for the sake of clarity. The derivation of this art from a linear draughtsmanship invented by painters is clear. The squat proportions, the heavy body parts, and the magnified scale of all costume elements resemble the Monte Alban reliefs <sup>36</sup> and tomb murals as much as they do Maya art of Early Classic date.

Nothing earlier has been identified among the reliefs and instrumental forms associated with Tajín. These carvings are usually designated as 'Totonac', and, more recently, as 'Classic Central Veracruz'.<sup>37</sup> In addition to the Tajín reliefs, the group includes yokes, heads, figural stone blades called *hachas*, and finials called *palmas*.

Crested heads of stone, probably symbolic of human trophy heads, have been found in southern Veracruz.<sup>38</sup> Miss Proskouriakoff notes two kinds, with slight and heavy forehead crests. The lesser crests she believes are very early. The protuberant crests (Plate 39A) appear in Oaxaca and Guatemala, probably much later. The crested heads may be early forms of the *hachas* and *palmas*. Miss Proskouriakoff's tentative sequence is (1) lightly crested heads, (2) heavily crested heads, (3) *hachas* (Plate 39B), (4) *palmas* (Plate 40B), with 2 and 3 overlapping. The entire sequence may span a period from before the Classic era until after its close.

As for the scrollwork decoration of Classic Veracruz sculpture, Miss Proskouriakoff distinguishes two modes. In the first mode, the hachas, or figural blades, are coeval with Group A among the yokes with an ornament based upon simple coupled scrolls (Plate 40A). The scrolls recur upon a stratigraphically dated mirror back of carved slate, from the end of the Early Classic period at Kaminaljuyú in highland Guatemala. This connexion allows Group A to be placed with Teotihuacán III, Monte Alban IIIa, and late Tzakol remains, upon a horizon at the end of the third century A.D. Group B yokes bear the same scrolls in more ornately interlaced or linked oblique bands: these are assigned to mid-Classic or early Late Classic dates (seventh-eighth centuries A.D.). At Tajín, two reliefs from Structure 5 are associated by their scrollwork with these Early and Late Classic yokes: a single-figure slab with A-type scrolls and a monument carved with B-type scrolls.<sup>39</sup>

### THE GULF COAST

The second mode defined by Proskouriakoff includes the ball-court reliefs at Tajín (Plate 41, A and B), the palmas (Plate 40B), and two reliefs from the neighbourhood of Misantla.40 The scroll ornament she identifies as of a later type. The palmas were not in general use until the close of the mid-Classic period. The scenes portrayed on the ballcourt reliefs and palmas show human sacrifice in a manner commonly associated only with Toltec and later ceremonial customs. However, nothing in the ceramic evidence at Tajín allows us to suppose that these reliefs were carved in Toltec times; on the contrary, it requires us to date Tajín sculpture earlier than the Toltec era (absence of plumbate and X-Fine Orange wares).

The two modes are clearly separate in time, as early and late, with some overlap. They are probably also separate in space. Yokes and hachas may correspond to south Mexican centres of style. Palmas come from around Jalapa and the region to the north of it, while the pictorial reliefs are at Tajín and Misantla. A diagram of these assumed relationships will help:

#### SOUTHERN VERACRUZ

NORTHERN VERACRUZ

PRE-CLASSIC

Ridged stone heads (Plate 39A)

EARLY CLASSIC Hachas and yokes Group A (Plates 39B, 40A)

MID-CLASSIC

Yokes Group B

LATE CLASSIC

Yokes Group B Palmas (Plate 40B)

Tajín ball-court reliefs (Plate 41, A and B)

It should be remembered that Proskouriakoff's analyses are far more rigorous and detailed.

Yokes, crested heads, palmas, and hachas compose a group of instruments used as body gear in a ritual ball-game (Plate 38B).41 They are associated in this context on a relief panel at the southern ball-court of Tajín (Plate 41A), and on a variety of figurines and representations from Maya and non-Maya sources. One of the Tajín reliefs shows two players standing between the sloping benches of a ball-court, both wearing yokes

with palmas resting upon the yokes.

The 'early' crested heads have sagging eyelids, flaccid muscles, and relaxed mouths of indeterminate expression. To Proskouriakoff they suggest dead people. Often a halolike flange surrounds the cranium at the rear. This flange may have served to lash the head to the yoke. The heavy-crested heads (Plate 39A) retain it, and one basalt example, purchased near Tres Zapotes,42 has a perforation running across the head behind the temples, as if to fasten it to the wearer by a belt. The slack expression of these heads is perhaps a fundamental trait of Gulf Coast expression, from the Mistequilla to the Huasteca; it reappears in the hachas and palmas, and in the Tajín reliefs, as well as in Huastec figural sculpture, so that it is a constant from early to late, and from south to north.

The yokes (Plate 40A) display three other features of Classic Veracruz sculpture: the predominance of animal over human representation; the dissociation of the body parts; and their reorganization upon the instrumental field. The typical stone yoke weighs about forty pounds. It can be worn as armour to protect the abdomen from the impact

of the heavy, solid rubber ball during play. Human figures imprisoned among the interlaces are characteristic of the A-group yokes; their legs and arms sometimes enmesh the features of a reptilian or feline monster. The articulations of this abstract figure in B-group yokes give an undulant appearance, and the monster displaces the human forms.<sup>43</sup>

The hacha forms were the most widely distributed ones of the entire ball-game panoply. The thin, flat blades (Plate 39B) must have been strapped as tools, as badges, or as emblems upon the persons or in the territory of the players. A stela from Tepatlaxco near Orizaba in Veracruz (Plate 38B) shows the dressing of a ball-player: his hands are both bound with tapes as if to affix hachas like rackets. Proskouriakoff has suggested that the iconography of the yokes, with their narrow and stable range of forms, probably represented religious ideas held by the community of participants, while the flat hachas may have been more personal symbols of heraldic character, designating individuals, families, or teams. They have been found at Teotihuacán, in Oaxaca, and in southeastern Guatemala. Some have an angular notch at the neck; others are tenoned (Oaxaca); still others, especially from Guatemala, have neither tenon nor notch. The forms of dead men and bare skulls are common, as if to recall a trophy-head origin; parrot, owl, and vulture profiles occur; sometimes a vulture appears feeding on the body or skull of a dead man. A tiger head, an acrobat, and a sacrificial victim stretched upon a pyramidal stair are known. Not uncommon, and probably late in date, are hachas with cut-out backgrounds perforating the thin blade.

The palmas are functionally different. A hacha blade usually cannot be made to stand upon its lower edge; a palma, however, has a broad triangular base, concavely curved underneath as if to fit a yoke (Plate 40B). From this base a broad fan-shaped finial rises, carved with a variety of themes: scrollwork; human figures and parts of the human body; sacrificial scenes; musicians; bundles of arrows; and turkeys and iguanas. Indeed the interpretation as personal emblems describes the thematic variety of the palmas better than it does the hachas. The palmas are much less widely distributed, and their style is more homogeneous, containing an apparent progression from squat to elongated shapes,<sup>44</sup> and from static single figures to pictorial scenes with many figures in a specified setting.

The ball-court panoply, and the accompanying ritual of human sacrifice, are described on two reliefs (Plate 41, A and B) which decorate the ends of the parallel playing surfaces of the main ball-court at Tajín.<sup>45</sup> Four scenes are shown, each flanked by a skeletal torso rising from a pot. Below and above each panel are interlacing scrolls. In the upper borders, these resolve into monster heads and tails. The south panels (Plate 41B) are more ornate in general and in detail than the north panels (Plate 41A), so that a difference in time may be supposed, with the south wall carved later than the north. For instance, the south-east panel has one seated figure carelessly dangling his feet over the lower frame of scroll interlaces. On the south wall (Plate 41B), furthermore, the lower scrolls are enriched by feathered insertions, which are lacking on the north wall. On the south wall, as at Xochicalco, the fleshy parts of the bodies have a ridged outline, <sup>46</sup> in the scrollwork system of the backgrounds, filled with flying figures and plumed forms. The

#### THE GULF COAST

north-west panels lack these outlines, and may therefore be the earliest work of the four.

Both scenes on the north wall take place in a ball-court, indicated by lateral platforms of Tajín profile. The west panel shows two standing players. Between them are the ball and a sign like the Aztec symbol for war, called 'burning water'. The east panel shows two players excising the heart of a third (Plate 41A). On the right is a seated, crosslegged figure, dressed like the left-hand personage on the west panel. A skeletal manikin descends from above as if to receive the soul of the immolated player.

On the south wall there is no explicit reference to the ball-game. The east panel has a standing figure between two seated ones. The left-hand one grasps a bundle of three downward-pointing arrows, in a gesture signifying war in Aztec usage. The west panel is flanked by musicians with a drum and a rattle. Upon a couch between them, a reclining figure is covered by an eagle with human hands (Plate 41B).

The smaller ball-court reliefs portray an eagle warrior and a throned figure. The technique of relief carving stresses the background pattern: it recalls cut-out sculpture. The ridged profiles of the reliefs in the main court reappear, but the scrollwork is much coarser and more schematic.

The pre-Toltec date ascribed to these reliefs is not contradicted by archaeological or stylistic evidence. The representation of human sacrifice by heart excision antedates Toltec examples at Chichén Itza. We do not know the source from which the people at Tajín took the ritual. The cult of death and the preoccupation with its physical appearance, which is so pronounced in post-Classic Gulf Coast art <sup>47</sup> north of the Mistequilla, is perhaps an argument for local origin, either in Veracruz or the Huasteca.

# Clay Figurines and Heads

Two local ceramic styles, Ranchito de las Animas (north of Veracruz Port) and the 'Laughing Figurines' of the Mistequilla region south of the Río Blanco, <sup>48</sup> appear to be related by their expressive content. The Ranchito figurines (Plate 42A) are hand-made, those of the Mistequilla district are moulded (Plate 42B). They resemble each other in the lively movements; the filed front teeth; the animated if conventional smiles; and the broad sculptural simplifications used to represent the elaborate costumes. Ranchito de las Animas figurines have been associated with La Venta-Middle Tres Zapotes in Early Classic times, while the Mistequilla figurines occur with yokes and hachas upon a Late Classic level (Upper Tres Zapotes).<sup>49</sup>

Ranchito figurines, coated with white slip, achieve a remarkable translation of drapery, hair, jewellery, feather decoration, and facial expressions into simple ribbons and sheets of brownish clay. The stereotyped smile is usually conveyed by a mask applied to the lower face, beginning below the eyes and spanning the cheekbones. The lips of this half-mask open in a rictus, and the front teeth show prominently. In profile, the nose is bulbous and protuberant at the tip: the half-mask may have been affixed by a pince-nez clamp. The head-dress, shown as a broad turban rendered by a strip of clay across the forehead, often has a bird in downward flight, given by four pats of clay.

Conical cape and skirt simplify the anatomical relations. Hands and feet are shown as summary stumps. Pairs of figures, seated upon platforms, strike poses as if conversing or singing. Strebel assumed that many of the heads were ornaments on flutes or whistles. Several types of eye appear. In the group just described, the eyes are rimmed by raised ridges; in another they are rendered by slit incisions. In Strebel's plates are several examples of triangular heads with punctate eyes. These groups suggest a long development from an archaic base.

The 'laughing' Mistequilla figurines continue this tradition farther south, in moulded technique, at a later period.<sup>50</sup> Glyph-like ciphers adorn the head-dress bands. The clothes bear a stamped ornament not unrelated to scrolls of Tajín style. The filed teeth and the flat-featured smile upon a triangular face (Plate 42B) are like those of the Ranchito figurines, although the half-mask has disappeared.

# THE HUASTECA

From Papantla north, the Huasteca province retained archaic linguistic, ritual, and artistic habits. From this coastal corridor between the Mexican highland and eastern Texas also came important contributions to the mainstream of Mexican cultural history. For instance, in the fifteenth century, when Axayacatl brought the north coast under Aztec domination, many traits of Huastec origin entered highland life, along with the tribute taken from the coast. Since cotton was the most important product of the Huasteca, many associated traits like the worship of Tlaçolteotl (Goddess of dirt, i.e. sin) in syncretistic Aztec religion are of Huastec derivation. Tlaçolteotl, or Tlaelquani (Eater of Excrement, i.e. Remitter of Sins), was a moon, fertility, harvest, and earth goddess, shown in Codex Borbonicus as the mother of the corn god. Her attributes include cotton cloths and spindles. Rites of the confession of sins were administered by her priests.

Another Huastec trait was the habit, as old as pre-Classic village civilization, of building round temple platforms. At El Ebano (San Luis Potosí) the circular mound is probably older than the one at Cuicuilco (Figure 1). It has a burnt-clay facing,<sup>51</sup> perhaps of accidental firing. A round stone structure, built of inclined conical rings like Cuicuilco, stands at Tancanhuitz. Ekholm concludes that these round structures may be the earliest in Middle America, and that their use may have entered highland archaeological history

at about the time of the Toltec expansion.

This connexion is proved by the mural decorations of a conical platform at Tamuín,<sup>52</sup> painted with red, white, and green processional figures of deities (Figure 20). Among them the wind god, Quetzalcoatl, is prominent. This god is usually associated with the round structures of the highland provinces.<sup>53</sup> The Tamuín murals are perhaps of the eleventh century. Their style is at least as much Mixtec as Toltec. The costumes and accessories of the figures resemble those of the Mixtec genealogical manuscripts, as do the terraced scrolls of the frieze at the top. Specifically Huastec is the densely patterned surface of the figural composition – so dense that it is difficult to separate figure, accessory, and background from one another.

### THE GULF COAST

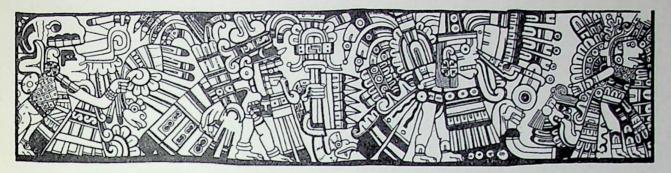


Figure 20. Tamuín, wall painting representing Huastec deities, eleventh century

The style of the murals recurs in a number of carved shell ornaments of Huastec origin (Plate 44). The backgrounds are cut away, and the surfaces are incised with complicated sacrificial scenes. These have been elucidated by parallels from the ritual manuscripts of the Codex Borgia group (p. 102).<sup>54</sup> The shell ornaments also point by their technique and material to North American parallels in the shell gorgets of the Hopewellian Style, such as those from the Etowah Mound in Georgia, where the diffusion, via the Huasteca, of Middle American warrior cults and sacrificial symbolism can be dated to the centuries around 1000. In the Huastec shell ornaments, the composition is fully adapted to the trapezoidal field of the gorget, and to the circular forms of the ear-lobe plugs. One is not reminded of borrowings from book illustration, as so often with Maya ceramic painting of figural scenes, but the figures suit the objects as if specially designed, quite as in the Hopewellian shell ornaments. One of the Huastec ear-disks shows the hunting and fire god, Mixcoatl, kindling a fire with a drill. From the point of the drill, and flanking it, rise symmetrical curls of smoke. This theme is the basis of the complicated designs of Huastec black-on-white pottery of Aztec date.<sup>55</sup>

Huastec monumental sculpture belongs to about the same post-Classic or Toltec periods as the shell ornaments. Comparable are the Tamuín statue (Plate 43) and the Arensberg head at Philadelphia: both reflect a sacrificial view of existence. This reappears in relief sculpture, as in the Huilocintla Stela, where the rite of blood-letting from the tongue is shown in forms like those of the perforated shell gorgets. The tattooing on both the Tamuín statue and the Huilocintla relief relate these works to primitive art, by their use of the human body as a field for ornamental scarification. Another primitive manifestation are the 'apotheosis' statues of Huastec origin, which show a live figure in rigid pose on one face, and a skeletal figure on the reverse of the statue. The statue of the statue.

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# CHAPTER 5

# SOUTHERN MEXICO

THE most numerous Southern Indian peoples, west of the Maya, are today the Zapotec and Mixtec, who occupy Guerrero, Puebla, Oaxaca, and Tehuantepec. Oaxaca proper is divided into the western highland, or Mixteca, and the eastern valleys, where Zapotec is spoken. The archaeological history of the region is related to the ceramic sequence <sup>1</sup> established by Alfonso Caso for Monte Alban near Oaxaca City. The record of Formative and Classic occupancy is continuous in this immense assembly of buildings. Its courtyards and tombs (Figure 21) spread over the contours and shoulders of the isolated mountain at the T-shaped meeting of three valleys, which converge at Oaxaca City from the north, the east, and the south. Monte Alban I and II correspond to the earliest monumental art of the region, which resembles Olmec sculpture. A vaguely defined transition (III), and Monte Alban IIIa compose the Classic era, commonly called Zapotec. Monte Alban IIIb, IV, and V spread from about the seventh century A.D. to the Spanish Conquest. They correspond to Mixtec and later Aztec domination at Monte Alban.

Mitla (Figure 23) arose during the earlier centuries of Mixtec civilization from about A.D. 700 until 900. (Note 19 and p. 91). The art of the later centuries, after 900, is characterized by metal objects, polychrome pottery, and painted manuscripts. For the Mixtec era, our main source of knowledge is the group of pictorial genealogies (Plates 52-5), recording about eight hundred years of dynastic history from the seventh century until after the Spanish Conquest.<sup>2</sup> The Mixteca Alta, in western Oaxaca, was the highland seat of these warrior aristocracies, who overran the sedentary and theocratic society of the Classic age, much as the Toltecs later overran the post-Classic civilizations of Yucatán and Teotihuacán. Various lines of evidence confirm the age of the Mixtec tribal dynasties, but their exact historical relationships, both to the theocratic rulers of Monte Alban and to the Toltec lineages in the north, are still obscure.

Mitla was built when Mixtec society separated from a parent culture of Classic date in the eighth century, at about the time of the earliest dynastic chiefs recorded in the genealogies.<sup>3</sup> Mixtec traits pervaded the material culture of central Mexico at the time of the Spanish Conquest. The polychrome painted ceramics and the manuscript illuminations of fifteenth-century Aztec art probably owe more to Mixtec sources than to any other tradition, so that we must review its origins in the Classic Zapotec style, recalling that Mixtec art had no separate identity until after the decay of Monte Alban, presumably in the eighth century.

# THE CLASSIC ZAPOTEC STYLE

# Architecture

Monte Alban is the most grandiose of all American temple centres, rising from the valley floor as an acropolis, studded with courts and pyramidal clusters (Figure 21). Trabeated wooden roofs were the rule, although stone vaults of peaked profile like those of Mycenaean construction are known, in Mound J and in some subterranean tombs. Stucco facings were less common than at Teotihuacán. The pyramidal platforms were finished with roughly shaped stones set in sun-dried clay. The terrace faces are dominated by wide stairways with broad balustrades. The principal surfaces are inclined; the vertical faces were generally interrupted by a variety of receding and layered planes. On these platforms stood buildings with earthen walls and columns of rubble, resting upon stone foundation courses profiled like the terraces, by laminated planes and inclined faces. The present surfaces were nearly all refaced under Alfonso Caso's direction before 1940.

The mountain-top acropolis surrounds an oblong court. Its narrow south end is highest in elevation, rising as an asymmetrical cluster of pyramids.<sup>4</sup> At the north end, another cluster of pyramids surrounds a sunken court separated from the main plaza by a barrier-platform. The east side of the main plaza is lined with great stairways; the west side has three free-standing temple groups; and the centre of the plaza is enriched by an oblong platform faced with stairways and buildings which reflect or echo the surrounding edifices.

The plaza looks entirely regular, but the symmetry of the sides is only approximate; the intervals between platforms vary greatly, and the main angles are either acute or obtuse. The idea, rather than the exact measure, of a rectangular enclosure is conveyed. These variations from geometric regularity suggest the archaeological history of the site. The oldest edifices 5 on the western side of the plaza (e.g. the Danzantes Temple) share an orientation some degrees south of east, while the other three sides of the plaza face the cardinal points more squarely, and probably belong to a later campaign of construction.

The design of the spatial enclosures of Monte Alban resembles that of the Ciudadela group at Teotihuacán (Figure 2). The assemblage of edifices might be described as an amphitheatre, affording privacy and enclosure to gatherings of people whose attention centres upon a dominant stairway and temple at the end or in the centre of the enclosure. The essential parts are barrier-platforms at the front and sides, and a stage-like composition either at the rear or in the centre. The enclosure is usually open at the corners, allowing the spectators to feel separated from other areas, yet connected with them by the openings between edifices. The main plaza of Monte Alban is itself such an amphitheatre, surrounded by lesser ones, especially on the north side, and by Group M and System IV on the west side (Plates 45B and 46).

During Monte Alban II, in the pre-Classic era (c. 300-0 B.C.), the use of masonry

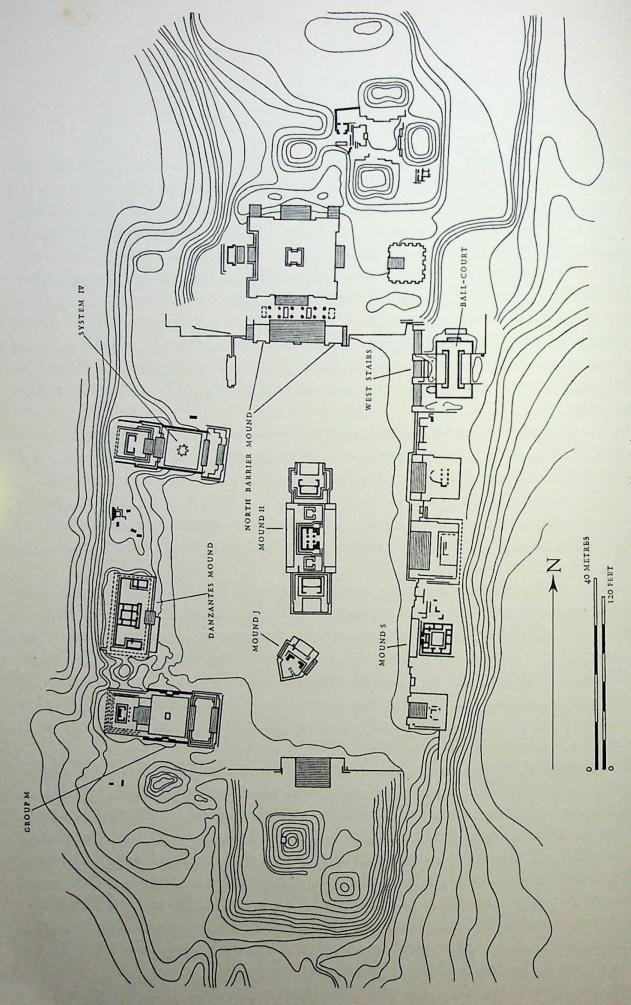


Figure 21. Monte Alban. Plan c. 700

columns was already common, as in Mound X at the north-eastern edge of the archaeological zone. Here, beneath a more recent and simpler rebuilding, Caso discovered a two-chambered cella. Two cylindrical columns in antis (within the plane of the façade) stood in each of the doorways. The 8 m. (25-foot) span of the outer doorway was reduced by the columns to three intervals: a central one 5 m. (15 feet) wide, flanked by narrow side-intercolumniations. This lively and inviting rhythm was repeated on a smaller scale at the entrance to the inner chamber. It reappears in the large portico on top of the barrier-mound on the north side of the main plaza, where the three intercolumniations are borne upon oblong pylons and doubled pairs of columns in antis. This simple and powerful massing, of great clarity, still dominates the entire site of Monte Alban. At the south-west corner of the main plaza, the temple of Group M is entered by a portico borne upon four cylindrical columns (Plate 46): similar two-column porches preceded the cellae of the lateral shrines on Mound H.

Of the dwellings at Monte Alban, only foundations survive. They are chambered structures, surrounding square sunken courtyards like the patio assemblies of Teotihuacán, with the difference that the Oaxaca dwellings are isolated quadrangles, while those of Teotihuacán are parts of larger systems. The largest at Monte Alban occupies Mound S on the east side of the main plaza, with more than a dozen rooms. Facing it across the plaza is the so-called Danzantes building, of eight small chambers round a courtyard. North-west of the plaza are more dwellings, containing underground tombs with painted walls with square courtyard structures above. These, like the mound over Tomb 105, consist of four main chambers, each projecting into the square courtyard sufficiently to define small corner courts (Figure 22). The four-chambered courtyard assemblages are probably earlier than the more elaborate quadrangle buildings (Mound S), which resemble the edifices of Mitla. Large monolithic lintels and jambs like those of Mitla, however, were used in the group of Tomb 105, so that no great interval of time need separate the latest edifices of Monte Alban from the Mitla quadrangles. As at Teotihuacán (Figure 5), substantial dwellings were first built during the last centuries of the Classic age, to continue as a tradition of domestic architecture in post-Classic times.

The appearance of the façades of Monte Alban is preserved in a few native models of stone. One of these represents a façade elevation (Plate 45A). The platform and stairway support a small temple chamber. Its front has a salient centre panel repeating the profiles of the main silhouette. These are the base moulding, the lintel-cornice, a sloping talus, panelled frieze, and flaring cornice at the top. The scheme of talus and flaring cornice, separated by a panelled frieze, repeats the composition of the base platform. Every form serves to variegate and diversify the simple trabeated structure. On the site of the quadrangular structure on the Danzantes mound, the foundations of such an ornate façade have been cleared: it was evidently a shell encasing a plain older façade.

There is no clear evidence of panelled friezes in the earliest architecture at Monte Alban. The form began in the Early Classic era (Monte Alban III) as a system for the decoration of pyramidal platform terraces. Before that period the earthen platforms were encased by flat slabs, incised with dancing figures (Plate 47, A, B, and c). Mound J, with its reliefs of Monte Alban II date, is the most complete example. In Period III, the

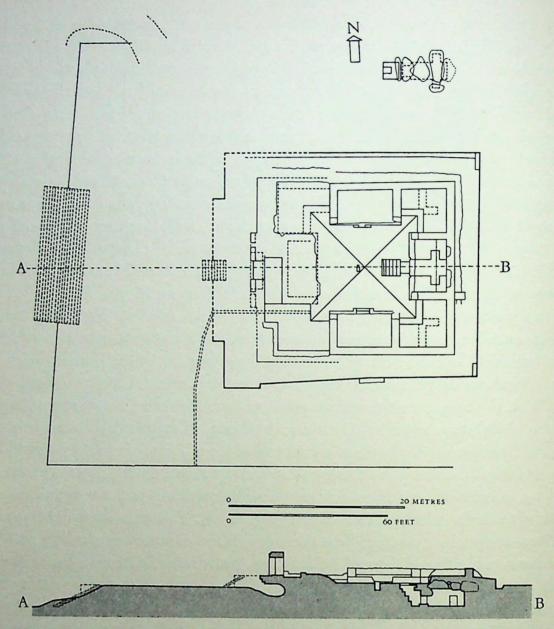


Figure 22. Monte Alban, house group and Tomb 105, seventh century (?).

Plans and section

group known as System IV, which closely resembles Group M in plan, may well be the earlier of the two 'amphitheatre' designs, because of the tentative and experimental character of the panelled friezes. In System IV (Plate 45B) the terraced platforms are horizontal accumulations, stressed by ample sloping aprons which overwhelm the unprepossessing panelled friezes. The stairways and the balustrades are so timidly proportioned that one is more aware of the angular massing of the platforms than of their directional organization. Group M (Plate 46), on almost the same plan as System IV, reverses the relationship between horizontal and vertical stresses, by a most ingenious rephrasing of the panelled friezes. The frieze is treated as a brief horizontal measure, like a bracket, and the brackets are vertically tiered to stress the ascending lines in both the barrier and the proscenium pyramids.8

The panelled friezes themselves carry the eye upward by their profiles and by their

contour in the plane. Each frieze consists of two or more layers of masonry built out from the wall face. These profile projections give great importance to the short vertical distances between terraces, and they, more than anything else, contribute to the vertical effect. In façades of extreme length, their effect in series is to break the horizontal by a pointillé succession of lights and shadows, like a dotted line.

Another principal device of the architects of Monte Alban was the wide balustrade, far more generously proportioned than in other Mexican or Maya styles of Classic date. The balustrades of Monte Alban are immense ramps, quite unlike the linear borders of Teotihuacán, Tajín, or the central Maya stairways. At the north barrier-mound, for example, the ramps occupy almost two-fifths of the width of the great stairway mound, and at the ball-court, the west stair ramps are each about half the width of the centre flight. This west mound was enlarged at least four times. When the stairs were lengthened, the balustrades were widened.

Underground tombs in great numbers appear throughout Monte Alban, under the main courts and smaller patios, as well as on the spurs and foothills surrounding the principal group. The oldest tombs (Nos 33, 43) are rectangular pits lined and roofed with flat stone slabs; those of Period II have entrance stairs and secondary chambers or niches forming a cruciform plan (Nos 77, 118), often with peaked vaults of slabs leaning upon each other. Monte Alban III tombs are the largest, with wall paintings and panelled frieze façades (No. 82). Tomb 7, re-used by later Mixtec occupants at Monte Alban, is of this type, like Tomb 104, erected late in Period III, and Tomb 105 (Figure 22). Under Mixtec influence in Periods IV and V are tombs like Nos 59 and 93, smaller than those of III, with tiny niches instead of secondary chambers. The main edifices of these periods were built, however, not at Monte Alban, but at Mitla and Yagul, where the underground tombs are elaborate cruciform structures (Figure 24), larger than those of the mountain centre.

# Stone Sculpture

Four distinct styles of monumental sculpture have been discovered in Oaxaca. The first two are the Danzantes slabs, which belong to Periods I and II (Plate 47, A and B), and the incised 'triumphal' stelae of Monte Alban, corresponding to Period III (Plate 47C). The third class (Plate 48B) belongs to the Zapotec valley towns of central Oaxaca, such as Etla, Zaachila, and Tlacolula. The slabs represent a man and woman seated beneath a sky symbol: frequently a single enthroned figure is shown. This class probably relates to Periods IIIb and IV of the Monte Alban chronology. The fourth class is exemplified by a slab at Tilantongo, which represents a warrior named 'Eight Death'. It corresponds to the style of the Mixtec genealogical manuscripts, and it is probably to be dated after A.D. 1400 (Monte Alban V).

The Danzantes slabs 10 are named from the animated postures of the standing, floating, and seated figures, which are grooved upon the stone by abrasion with a rounded hand-axe (Plate 47, A and B). Within body contours, flesh portions are lightly modelled as swelling or concave surfaces. The buried position of the slabs at the south-east corner

of Mound L, built in Period III, and their association with modelled pottery decoration of Monte Alban I <sup>11</sup> are proof of antiquity. In all, forty-two slabs have been recovered, which lined the re-entrant angle between a pyramidal platform and the projecting face of its stairway. Caso has pointed to differences of style among slabs facing the pyramid, noting a variant group of extremely elongated figures, which he assigns to Period II (Plate 47B).

A marked general difference of style between the slabs lining the pyramid and those of the stairway is more easily discerned. The pyramid figures (Plate 47A) are gross and large. The stairway slabs recall the animated elegance of the flying figures of Olmec reliefs. They point to a connexion with the commemorative slabs in the facing of Mound J (Plate 47c). There, heads of Olmec style appeared in characteristic clusters of signs, which consist of an inverted human head beneath a locative glyph of terraced profile, denoting a specific town, near a string of glyphs probably indicating the year, month, and day of a conquest. The inverted human heads probably refer to defeated tribes.

The glyphs resemble the Maya system of writing with cartouche frames and numerals formed of bars (fives) and dots (units). Both the glyphs and the numerals are too few to permit the complicated statements of Maya writing. In all likelihood the Monte Alban glyphs, like those of the later Mixtec, Toltec, and Aztec peoples, treat of only the simplest calendrical, personal, and historical facts, without venturing into the complicated astronomical cycles of Classic Maya inscriptions.

The stelae lack both the daemonic quality of the Danzantes slabs and the compositional harmony of Classic Maya reliefs. Classic Zapotec stone sculpture is certainly not abundant; and relative to Maya or East Coast sculpture, it is distinctly provincial. The Zapotec carvers never again recovered the powerful line or the expressive control shown in the Danzantes figures. The formula is simple: upon a terraced place-name sign stands a dressed-up warrior or god-impersonator, surrounded by coarse glyphs of immense size, designating the date of the event and the name of the personage. The persistence of the glyphic formula of the conquest slabs on Mound J is apparent. In Stela 4, a warrior named Eight Deer stands nonchalantly on one foot with the postural freedom of the Danzantes figures (Plate 48A). The elaborate head-dress and the speech-scroll are related to the conventions of the art of Teotihuacán. Posture and costume are doubtless of the same generation as the murals of Tombs 104 and 105 (Plates 50 and 51A). On a large flat incised onyx slab,12 the resemblances to Teotihuacán murals are even more marked: a tiger impersonator stands in profile; behind him is a priest in a costume. In general, this rather desiccated art of relief representation reflects a sumptuous life of religious pageantry. Processions in costume were probably the living sculpture which moved over the platforms and stairways of Monte Alban, dimly reflected in the captains and priests on the stelae.

# Clay Sculpture

Much more powerful, both as sculptural expression and as a visual record of the ranks and orders of Classic Zapotec life, are the anthropomorphic vessels of fired clay which were part of the tomb furniture both at Monte Alban and in the valley towns, as well as on Mixteca Alta sites. Probably each region of the Classic Zapotec civilization supported distinctive local styles in the manufacture of funerary pottery. The fundamental types are numerous, <sup>13</sup> and their development from simple to complex forms must span about a thousand years, embracing both the Formative and Classic Zapotec eras.

Caso and Bernal have sought to relate them all to representations of the gods and to personifications of the deities of the 260-day calendar. Their early sequence – Stage I (effigy vessels) correlated to the grooved Danzantes figures and Stage II containing early funerary urns – is marked by massive Gulf Coast, pre-Classic Maya, and Central American connexions in morphology and iconography. A Transitional (Early Classic) period, following the Formative era and preceding the Classic Zapotec stages, was strongly affected by influences from Teotihuacán, which are evident in the sculptural vocabulary as well as in the system of 'written' signs. The fully developed range of Classic themes occupies Stages IIIa and IIIb, corresponding to Late Classic and post-Classic periods. Monte Alban IIIa corresponds to the terminal period of residential occupation at the mountain citadel. In IIIb the site became a necropolis. The ceramic styles of these two periods are marked by increasing elaboration and complication of the simple fundamental stock of glyph-forms and god-types; and during IIIb, many valley towns, such as Etla or Zaachila, produced their own funerary wares.

All local styles display from beginning to end the same succulent treatment of the clay. The Zapotec potters translated all forms into sheets, rolls, drops, and lattices of wet-carved details. No other American potters ever explored so completely the plastic conditions of wet clay, or retained its forms so completely after firing. The Zapotec never forced the clay to resemble stone or wood or metal; he used its wet and ductile nature for fundamental geometric modelling, and he cut the material, when half-dry, into smooth planes with sharp edges of an unmatched brilliance and suggestiveness of form.

These properties of Zapotec form were already evident in Monte Alban II pottery, and they persisted in Period III. Two examples will illustrate the tendency common to both periods: the face urn (Plate 49A) from Monte Alban (Tomb 77), and a large effigy urn (Plate 49B) of Period IIIb which also displays a human figure encased in an imposing broad-billed bird helmet. The earlier example uses overlapping ochre and green plates of clay to construct a symbolic geometric frame of concave and convex planes for the powerful middle-aged portrait face within the helmet. In the late example, the sculptor spent more effort upon the head-dress and costume than upon the human subject. Close-set rhythms are prominent. The interplay of feathers, beads, olivella shells, knotted thongs, and jade ear-plugs, made in forms that respect the nature of clay, all while conveying the tactile identity of each original substance, dominates the composition. The early urn conveys a genuine human identity; the later one communicates

only rank and status. One is reminded of the differences between pharaonic Middle Kingdom and New Empire portraits: between care-worn individuals and remote demigods smothered by regalia. A closer parallel is to the early and late figurines of Teotihuacán, where the same sequence holds from portraiture to ceremonial mannequins.

# Wall Painting

The murals of Tombs 104 and 105 (Plates 50 and 51A) are painted with earth colours in a dry fresco technique upon a stucco ground. Both tombs belong to Period III, with processional scenes of figures in profile on both walls, leading symmetrically towards a large scene of heraldically regular composition spread across the rear wall. Tomb 104 is simpler and less slovenly. By parallels with the ceramic development, Tomb 104 probably antedates 105.16 In Tomb 104, the glyph-forms and the vast head-dresses, stuffed and hung with attributes, dwarf the human figures, whose stunted proportions (head: height = 1:4) makes them into accessories to the panoply of day-signs, numerals, and god-masks. In the bodies, stunted limbs, arbitrary articulations, concavely curved profiles, and angular joints mark different stages in the loosening of the line. The figures of Tomb 105 are drowned among the complications of costume accessories. Beneath painted sky-frieze cornices, light figures of alternating sex, four on each wall, march in profile towards the end wall, where a glyph recording the day 'Thirteen Death' dominates the entire space. On this end wall, three successive layers of paint are visible. Each later coat enlarged the dimensions of the sky frieze, and the last coat substituted the huge heraldic day-sign for the singing figures of celebrants in costumes that filled this space in Tomb 104.

# THE MIXTECS

Unique circumstances complicate the study of Mixtec art. The native genealogical records account for nine centuries of pre-Conquest history in southern Mexico, beginning c. 600. This astonishing pictorial chronicle is internally consistent and historically credible. The intricate narrative tells of the rise to power of a few families of highlanders in western Oaxaca. Their dynastic alliances and the wide conquests of their military leaders are the principal matter of these manuscripts. But the narrative lacks confirmation either from other tribal sources, or from the archaeological record. The Aztec histories mention the Mixtecs only in connexion with the conquest of Oaxaca by the captains of Moctezuma I in 1461. Excavations in western Oaxaca yield sites and objects of Classic Zapotec style in the older strata.17 Much more recent stages of Mixtec archaeology are the intrusive contents of Tomb 7 (Plate 57) at Monte Alban. 18 Also of late date are the gold, jewellery, jades, turquoise mosaics, and brightly painted ceramics found in Mixteca sites and at Cholula, as well as on the East Coast, and as trade objects in Tenochtitlan. Both the manuscripts and these archaeological finds are currently ascribed to c. 1300-1500. The Classic Zapotec strata, on the other hand, antedate the eighth century A.D. We are therefore confronted with an archaeological void

for Mixtec history, spanning six centuries, from about 700 until the fourteenth century. This is two thirds of the time so richly portrayed in the genealogical histories.

With what can we fill this void? Many have suspected that the buildings of Mitla, about 30 miles east of Monte Alban, are Mixtec constructions. The fragments of pottery in the walls are of Mixtec types; the burials beneath the floors contain Mixtec artifacts; the wall paintings (Figure 26) resemble Mixtec manuscripts; and a local tradition, first collected in 1580, holds that the 'palaces' of Mitla were then about 800 years old, i.e. of the eighth century. Similar courtyard buildings at Yagul, near Mitla, also contain Mixtec pottery fragments and burials. As we shall see, the architectural forms of Mitla and Yagul are sufficiently like those of the main plaza buildings of Monte Alban to allow the belief that they are not too far separated in time from Monte Alban.<sup>19</sup>

As a working guess, then, the art of Mitla and Yagul may be placed in a three-hundred-year period spanning the eighth and eleventh centuries, as an Early Mixtec style corresponding to the first and second dynasties of Mixtec princes recorded for Tilantongo in the genealogical manuscripts (p. 100). In this chronological position, the court-yard structures at Mitla (Plate 51B), with the mosaic stone panels on their façades, are coeval with analogous edifices in the Puuc district of Yucatán, at Uxmal (Plate 84), Kabah, and Zayil, as well as with the buildings of Xochicalco and Tajín Chico (Plate 37). It is a pre-Toltec and post-Classic horizon, like the fourth and terminal stage of Teotihuacán archaeology, after the abandonment of the pyramid site at Teotihuacán proper.

For the eleventh to fourteenth centuries, the gap is not easy to close. We can suppose that Toltec expansion had important consequences in Oaxaca, consequences for which we may search the pages of the Mixtec genealogies, since we lack any field archaeology relating to these three centuries. Thus the manuscripts will be our chief evidence for the history of the art of the Toltec era in Oaxaca, as Mitla is the principal monument of the preceding three centuries. For the years after 1300, we have the polychrome pottery, the late manuscripts, and jewellery of late Mixtec style.

# Mitla

This cluster of courtyard structures (Figure 23), strewn along the banks of a dry stream at irregular intervals, without striking varieties of level and without clear relationships among groups of buildings, is completely opposite to the grandiose design of Monte Alban, where every edifice adds to the unified effect of the total pageant-space. At Mitla the isolated edifices give the effect of suburban villas, jealous of their privacy, turning closed walls upon one another, walls which display wealth without inviting the spectator, without attempting to share a coherent space with the neighbouring edifices. The buildings of Mitla have in common only their excessive individuality and their cardinal orientation. They reflect a social organization and a conception of the public areas radically different from those of the Classic Zapotec theocracy.

For these reasons alone one is justified in ascribing them to a different ethnic group and to a later stage of history. The differences also extend to the materials. The quartzite

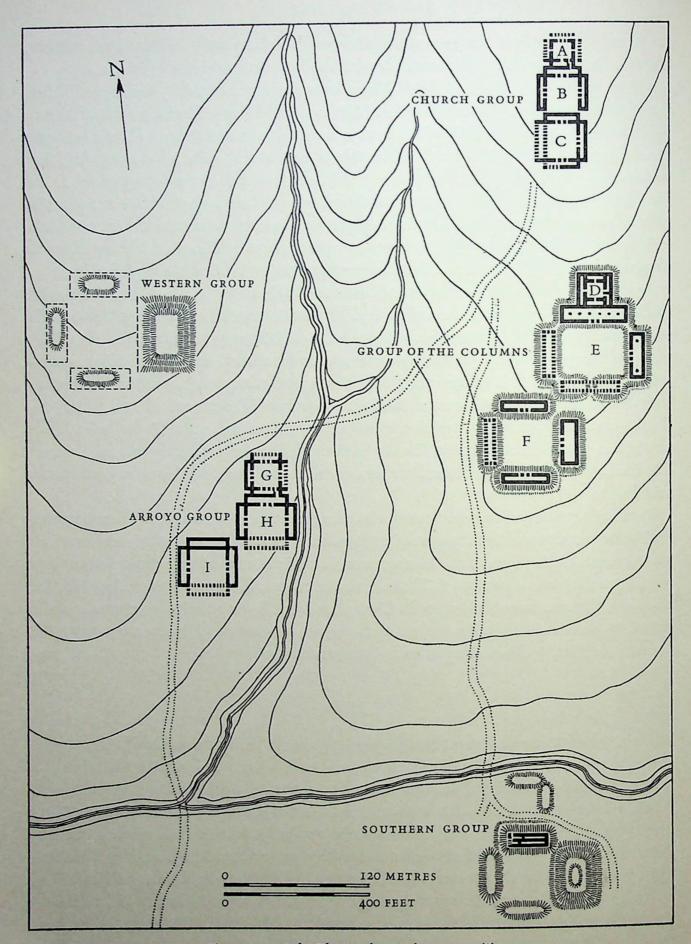


Figure 23. Mitla. Plan in the ninth century (?)

blocks of Monte Alban (Plate 46) are irregular and difficult to shape, unlike the smooth-grained trachyte slabs of Mitla (Plate 51B). The plans are unrelated as well – there is no precedent at Monte Alban for the linked courtyards of residential buildings at Mitla – and the courtyard dwellings of Monte Alban (e.g. the house foundations above Tomb 105; Figure 22) resemble those of Teotihuacán more than Mitla.

The arrangement of the surfaces at Mitla nevertheless betrays close dependence upon the decorative system of the panelled friezes at Monte Alban. There can be no question that Mitla, however different in purpose and plan, continues the Classic Zapotec tradition of ornamentation. Another proof of relationship is the occurrence of cruciform tombs built beneath the groups of dwellings, and repeating in their decoration the motifs of the buildings above.<sup>20</sup> The Mitla tombs, to be sure, are more evolved; they are larger and more ornate than those of Monte Alban (Figure 24).

The chronological sequence at Mitla (Figure 23) is clear in its main outlines. The southernmost group of four mounds contains a tomb (No. 7) in the east platform; it is of Monte Alban III type, with slab walls and roof, and ceramics of the Classic Zapotec style.<sup>21</sup> The same open quadrangle of four platforms recurs in the westernmost group, which may therefore be of the same date as the south court. All other edifices belong to a later period, which we have here attempted to identify as immediately post-Classic and pre-Toltec.

These later buildings form three groups, each composed of three quadrangles. They are all orientated upon the cardinal points, like the older courts. The smallest is the Arroyo Group, with large stone lintels, and it is the worst preserved. The northernmost group contains the colonial church of Mitla. The largest and most ornate quadrangle assembly is the central one, called the Group of the Columns, because of the cylindrical stone shafts that supported the flat roofs of the buildings lining the centre court.

A similar site has been studied at Yagul near Mitla.<sup>22</sup> Yagul, however, has a ball-court like Monte Alban. The quadrangle buildings of Yagul resemble the smallest group at the Arroyo in Mitla. The quality of the fret mosaics at Yagul is much coarser, and the excavations show possible progression from assemblies of large units to finer workmanship in later periods. A hypothetical sequence can be taken as follows: Monte Alban, Yagul, Mitla. The builders of Mitla would have inherited the finest technique, laying out the largest and most complicated courtyards, presumably near the end of a period of undetermined duration. The evidence is most incomplete, and a case can also be made for Yagul as a poor imitation of Mitla, like Mayapán in relation to Chichén Itza.

At Mitla, the chronological sequence of the three courtyard buildings has never been established beyond question. If, however, we distinguish loose organizations from ornate and difficult ones, and massive forms from their alternated and stereotyped versions, two stylistic phases emerge distinctly: one is the Group of the Columns, and the other includes both the Arroyo and the Church Groups. These differences appear in the plans (Figure 23). The Group of the Columns consists of two open-corner quadrangles (E, F) which draw together only at one corner. All the corners are suggested, but not closed, so that the eye has an escape from the court at each of the open corners. In the Arroyo and Church Groups, however, the courtyard corners are closed. In the Arroyo

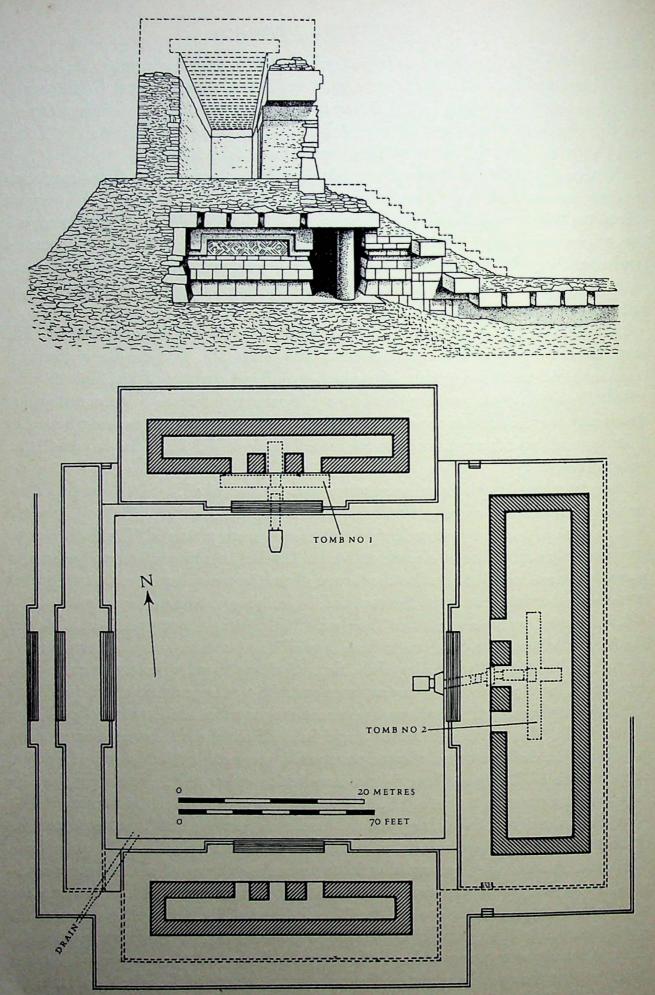


Figure 24. Mitla, Quadrangle F, tombs, ninth century (?). Section of north building and plan of court

Group the two quadrangles (H, I) approached a meeting by the corners, as in the Group of the Columns, but this expansive interpenetration is forgone at the Church Group, where the southern quadrangle (C) shares one whole side with an adjoining quadrangle (B).

Thus the Group of the Columns with its eight separate pyramidal platforms still belongs to the tradition of ceremonial plaza design by means of massing open blocks. The other two groups, which lack platforms, suggest privacy and introversion by their closed corners and forbidding exteriors. That the designers were still unconcerned with interior commodity appears from the lack of connexion between the chambers framing the rectangular courts. Their main aim was to compose the exteriors, by closed inner courts, and by the re-entrant corners indenting the outer envelope of each quadrangle. From the Group of the Columns to the other two groups, therefore, a progression seems apparent, from clusters of pyramidal platforms of Monte Alban type, to the tightly

planned rectangular buildings standing directly on the ground.

The family likeness between the mounds of Monte Alban and the Group of the Columns at Mitla reappears, as noted before, in the cruciform tombs built into the platforms (Figure 24). But at Mitla a new sense of space characterizes the tombs: they are like crossroads intersecting at right angles and lined by imposing façades which repeat the composition of the palace fronts on top of the mounds. It is as if the corners of a square enclosure, like the inner quadrangle of the Column Group (D), had been inverted, to become projecting instead of re-entrant angles; as if the corners of the square court had become outdoor corners rather than inside angles. This conversion of the space of a room into the space of intersecting corridors is embellished in the tombs of Quadrangle F with all the profiles and fret ornaments of exterior façades: one seems to stand among clustered building fronts in the underground chambers. In the ritual manuscripts (e.g. Codex Laud, etc.) such a form is common, with footsteps painted in each arm of the cruciform plan. The Náhuatl name of the form is otlamaxac, signifying the crossroads, where Tezcatlipoca and other night gods made their appearances as magicians. A Maya parallel occurs in the small cruciform vaults beneath certain Late Classic stelae at Copán, lined with stone slabs and filled with votive offerings.23

The fretted decorations of the walls of Mitla (Figure 25) reinforce our division into early and late groups. In the quadrangles of the Group of the Columns, the façades were completely revetted with registers of panelled friezes containing mosaics of fret ornaments, sheltered by projecting mouldings. In the Church Group, only the cornice zones were thus enriched, with frets in diagonal composition, of a much more mechanical quality of execution. The recessed overdoor lintels (Figure 26) in both Arroyo and Church Groups, moreover, are painted with scenes like those of the Mixtec ritual manuscripts: the placing and the style of the paintings strongly confirm the impression of a date later than the Group of the Columns, where there is no trace of such pictorial decoration.

The outer façades of the Group of the Columns (Plate 51B) display one important refinement, lacking in the other buildings: the vertical profiles at the ends of the long horizontal blocks are cut to lean outward. This 'negative batter' also characterizes many

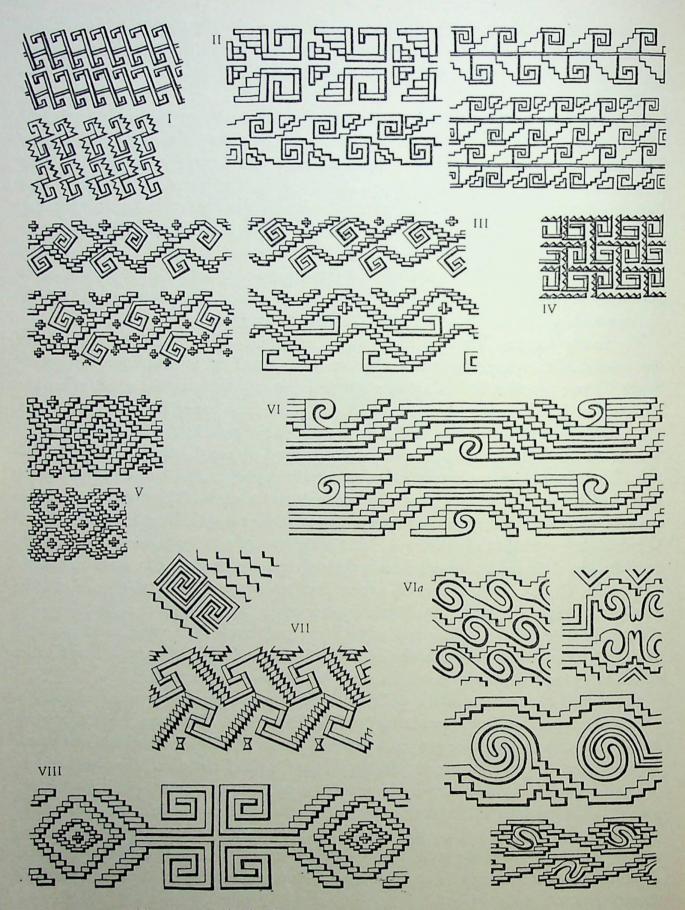


Figure 25. Mitla, façade mosaics, typical forms, ninth century (?)

post-Classic buildings in Yucatán, especially at Uxmal, but it was never used with more subtlety and grace than at Mitla. The profile slopes inward at the base of the wall: above this constriction the upper three panelled friezes lean out, each overhanging the one beneath it by several inches. This visual correction not only restores the authority of the vertical lines in the long and low block, but also allows light reflected from ground level to bathe the wall from below. In addition, the mosaic panels are protected from weather, both by the overhang and by the protuberant mouldings.

The fret decoration is of two kinds. Some were carved in relief on immense slabs of stone, as upon certain lintels and in parts of the cruciform tombs. Others were assembled like mosaics from small shaped elements set in clay. Nothing suggests that these techniques belong to different periods; the shaping of very large and very small stones flourished together. Some striking differences in theme and composition may mark early and late buildings: for example, the friezes of the Church Group present only diagonally fitted key fret bands of a dry and monotonous execution, which, taken together with other indications, seem to be late in the development of the style. Bits of colour still adhering to the protected surfaces show red and pink tones laid upon a priming of cream or white.

Some 150 panels of mosaic and carving survive (Figure 25), drawing upon a vocabulary of eight typical forms, all elaborated upon primary key fret and spiral fret patterns.<sup>24</sup> The key forms are reversing (I), stepped (II), rinceau (III), serrated (IV), and meander (VII); the spiral frets (VI) are all of meander type. Diamond forms (V) occasionally combine with key motifs (VIII). Key frets and spiral frets are contemporary, because of their close association on the walls of the Group of the Columns. The tilted key frets (I) at the Church Group look late, possibly as dynamic variations upon the more static serrated key (IV), which is one of the most common forms at the Group of the Columns.

The meaning of these beautifully fashioned panels of fretted decoration is lost. In the genealogical and ritual manuscripts, such fretted patterns often designate towns or temples. Thus a frieze of stepped terraces, painted black and white, means the town of Tilantongo in the genealogies.<sup>25</sup> It is not unlikely that each of the frieze types had a geographical meaning, referring to the different Mixtec principalities. If so, their combination on the walls of the Group of the Columns may have distinguished the building as a symbol of the Mixtec people.<sup>26</sup>

# The Marriage Reliefs

The only figural sculpture which can be assigned to the period of the buildings at Mitla does not come from Mitla, but from the other valley towns, and the date is problematic. These relief slabs, which represent seated couples (Plate 48B), resemble the subject matter of the Mixtec genealogical manuscripts of the sixteenth century, but their glyph-forms and several conventions of figural representation relate to the Classic Zapotec style of the type of the murals in Tombs 104 and 105 at Monte Alban (Plates 50 and 51A). The recurrent scheme of the marriage reliefs shows two couples seated

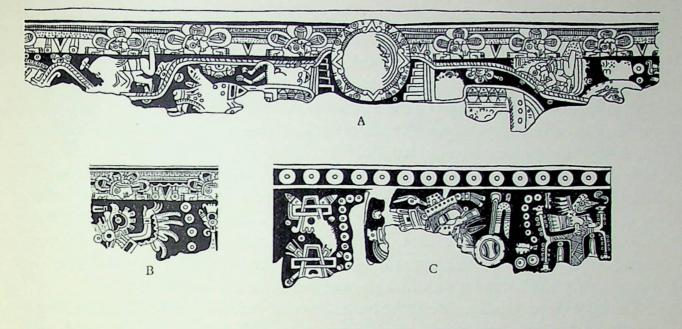
facing each other in upper and lower panels.<sup>27</sup> Above the upper couple a sky symbol of doubled serpent jaws, like those painted in the tombs of Monte Alban, disgorges a head, or hands bearing jewels. The name-glyphs are calendrical, in the Classic Zapotec system of bar-dot numerals and day signs; all other glyphs are also Zapotec. The terraced placename signs in the lower register resemble those of the Zapotec stelae. But the postures and costumes of the seated figures, especially the women's, are those of the Mixtec genealogies.

The entire compositional scheme and the subject matter are paralleled only in Mixtec manuscripts. Codex Zouche (or Nuttall), a deerhide painting of the sixteenth century, records the same arrangement of a couple, presumably the dynastic founders, seated above another couple shown as the legitimate descendants and rulers (Plate 52). This interpretation is reinforced by certain variants in the marriage reliefs: for instance, on the circular stone from Ciénaga near Zimatlan, only one couple is shown enthroned. Above them are two skeletal figures with name-glyphs, hovering as ancestors below the sky symbol from which the symbols of secular rule emerge. Another relief reduces the ancestral couple to heads shown behind the reigning pair. Another group of related reliefs shows single enthroned figures, dressed as in the marriage reliefs, and wearing serpent-mask head-dresses. Thus the forms are Zapotec, but the content is Mixtec, in a mode that parallels the mixture of themes and forms in the architecture of Mitla.

# Murals

The lintels in the courtyards of the Arroyo and Church Groups at Mitla are painted with small scenes in manuscript style (Figure 26).<sup>28</sup> Although they are almost certainly pre-Conquest, the pictorial conventions and the iconography of solar themes cannot be earlier than the Toltec age. They are usually assumed to be of Aztec date, that is, after 1450, when Oaxaca was subjected to garrison rule by armies from the Valley of Mexico. This assumption is difficult to prove, for many traits, like the year-signs of interlaced A and O forms, are specifically Mixtec, reappearing in the jewellery of Tomb 7 at Monte Alban and in the Mixtec genealogical manuscripts and polychrome pottery. For the present, the date can be fixed only between the eleventh and sixteenth centuries, and the mural decoration regarded as added to older buildings.

The technique is simple: over a grey plaster film, the outlines are painted in red pigment, upon recessed lintel-panels which were designed and cut to protect the pictures from weathering. Several different hands are evident, a calligraphic style of ornate outlines and richly textured surfaces appearing on the east side of the Church Court (Figure 26B), a much coarser and more hurried style of simpler and fewer forms and hasty draughtsmanship adorning the Arroyo Court (Figure 26A), and, in the remaining pictures on the north, west, and south sides of the Church Court (Figure 26, c and D), a style between the finish of the first hand and the rapidity of the second, with a tendency to turn each part of a body into a distinct ornamental figure of extremely conventional character. In this last, large group, several hands are evident. To assign any chronological order is at present impossible, on account of the fragmentary condition of the



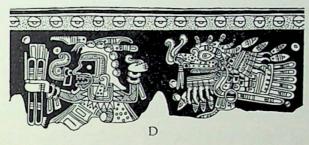


Figure 26. Mitla, paintings on lintels in Arroyo and Church Groups, after 800.

(A) Arroyo north; (B) Church east; (C) Church north; (D) Church west

murals and the general ruin of the buildings. Most nearly Aztec in style and content are the paintings on the west side of the Church Court (Figure 26D), which may be compared with the sixteenth-century mural at Malinalco in central Mexico (Plate 26A). In both, huntsmen armed with throwing-sticks, and wearing the face paint of the hunting god, Mixcoatl, appear in processional order. Most closely related to Mixtec manuscripts are the paintings of the east side of the Church Court (Figure 26B). They invite comparison with such manuscripts as Codex Colombino-Becker (Plate 54B).

The Mitla painter uses an interesting convention. From the sky band of the upper border, profile heads look down upon the scenes below, each flanked by a pair of hands, pushing down the darkness of the backgrounds. This theme relates to the principal scene on the north side of the Arroyo Court (Figure 26A): the sun-disk here appears centrally, as if rising between terraced ball-court platforms. Here, too, the sky figures push down the darkness. Star-studded ropes from the sun are handled by figures who emerged from the sky band; they perhaps are raising the sun. Elsewhere, sleeping figures are shown in the Arroyo Court, which was perhaps dedicated to the theme of the rising sun. The dawn theme is repeated once more in the sky band on the east side of the Church Court (Figure 26B). The north side (Figure 26C) relates to day-time events, the west side probably to nocturnal scenes beneath a canopy of stars (Figure 26D).

# Painted Books and Maps

The manuscripts of southern Mexico usually pertain to Mixtec towns and to Mixtec rituals.<sup>29</sup> One group consists of deerhide screenfolds. Another group, of post-Conquest date, is painted on large sheets of cloth or on European paper. The cloths are called *lienzos*; the paper records mapas. The screenfolds, also misnamed 'codices',<sup>30</sup> have the advantage, as pleated narrative ribbons, of allowing one to open the book at several places simultaneously, and to consult front and back together (by twisting the opened ribbon). According to a seventeenth-century Dominican chronicler, the screenfolds were hung as wall ornaments around the dwellings of the lords.<sup>31</sup> The soft deerhide strips, sewn or glued together, sized with a chalky varnish, and then painted, have retained much of their brilliance, even though the panels tend to flake at the borders. The pages usually divide into bands, which are read in a meander-pattern.

The books from southern Mexico share many other conventions: the numeration is usually by dots alone, without the bars signifying five; the day signs of the calendar are the same as those of the twenty Aztec days; and the sign for the solar year of 365 days is an interlacing A and O cipher. The deities all resemble those of the central Mexican pantheon in Aztec sources. The genealogical conventions also resemble those of the Aztec genealogies, such as Codex Xolotl.<sup>32</sup> Indeed, the pictorial writing of the Aztecs is credited in Codex Xolotl to the Tlailotlacs (Plate 12A), a Nahua-speaking band emigrating to Oaxaca, learning these and other arts there, and returning to the Valley of Mexico about 1300. Thus a Texcocan source (p. 63) supports the general indebtedness of late Mexican civilization to the Mixtec peoples of the post-Classic era, although the Aztec histories themselves give little account of the debt, which we can reconstruct only by indirect means.

Caso's brilliant decipherment of the Mixtec genealogical record is based upon a land-map of 1580 portraying the Mixtec district of Teozacualco in Oaxaca, together with a list of all its rulers, and their predecessors at nearby Tilantongo, for eight hundred years. It is arranged in columns of couples, seated upon mats and named by ideographic signs. These couples all recur in the genealogical manuscripts on deerhide, where many further particulars are supplied. Caso has fitted the various accounts together in the following reconstruction of Mixtec dynastic history as recorded for Tilantongo.<sup>33</sup> The dynastics reflect the principal ruptures and crises of Middle American archaeological history.

Pre-dynastic	c. 600-c. 855	] = = = = = = = = = = = = = = = = = = =
1st dynasty	855-992	Late Classic (Mitla)
2nd dynasty	992-1289	Toltec
3rd dynasty	1289-c. 1375	Chichimec
4th dynasty	1375-1580	Aztec and Conquest

The first two periods correspond to the era we have assumed for the buildings of Mitla. The second dynasty was coeval with Toltec domination in central Mexico and northern Yucatán. The third dynasty corresponds to the Chichimec period, and the fourth to Aztec hegemony.

The dates of the various manuscripts can be deduced from their genealogical content. The front of the Vienna screenfold (Plate 53A), completely painted in fifty-two panels, is ostensibly earlier than the reverse. The front deals both with mythical and with historical genealogies, as well as with ritual matters, such as New Fire ceremonies. The reverse is incomplete (Plate 53B), covering only thirteen panels and breaking off abruptly with a generation alive in 1350. The Zouche-Nuttall screenfold (Plate 52) likewise terminates with the generation alive in 1350, and ruling at Teozacualco. It includes different styles of drawing which possibly reflect a lapse of time in composition. Thus the Vienna and Zouche-Nuttall screenfolds can be tentatively ascribed to a period before 1350.

The second group is much later, including the Bodley and Selden screenfolds in Oxford. Both carry the genealogical account into post-Conquest times. Most of the Bodley narrative (Plate 54A), like the back of the Vienna manuscript, concerns the dynasty of Tilantongo. The Selden screenfold treats mainly of an unidentified town pictured as a smoking mouth, and ruled by a family intermarrying with those of Tilantongo and Teozacualco.<sup>34</sup> These screenfolds break off about 1550, but their narrative is continued and amplified in other native colonial documents, especially the genealogies of the type of the Teozacualco map, such as the Lienzo de Zacatepeque and the Rickards map, both on cloth.<sup>35</sup>

If we now consider style, other possibilities of grouping arise. The front and the back of the Vienna manuscript are very different. The front is almost mechanical in the regularity of the line, the clarity of colour, and the orthogonal rigour of the projections of round bodies upon the flat plane (Plate 53A). The back is executed with a scratchy line, muddy colour, and unkempt contours (Plate 53B). The contrast between the two sides seems to be not only the contrast between cultivated and cursive forms and between careful or hasty execution, but also between widely separated historical stages in the development of a graphic style. By this criterion, the reverse of the Vienna manuscript may be regarded as a late recension of early subject matter.

In the Zouche-Nuttall manuscript, the front and back sides likewise display differences of execution, though less pronounced than in the Vienna deerhide. The front, which treats of early genealogies in rapid succession on pages 1-41, changes at page 42 to a more open and spacious composition, in a brighter range of colours, with bigger shapes and more detailed sequences of narration (Plate 54A) relating the life of the eleventh-

century conqueror known as Eight Deer and Tiger Claw.36

Thus one is tempted to postulate early (pre-1350) and late (sixteenth-century) styles, characterized by prolixity and redundancy in the early group, and by compact, swift narrative conventions in the late group. The styles are further differentiated by the ample linear descriptions and brilliant colour of the early group, in contrast to the stenographic linear character and narrow colour range of the late group. With this in mind, we may assign the manuscripts known as Codex Colombino (Plate 54B) and Codex Becker,<sup>37</sup> which bear upon the eleventh-century portions of Mixtec history, to the early group, because of their broad and prolix narrative as well as the high colour and ornate linear precision of the figural descriptions.

The south Mexican ritual manuscripts <sup>38</sup> include the Borgia (Plate 55B), the Vaticanus B, Cospi-Bologna, Féjerváry-Mayer (Plate 55A), and the Laud screenfolds. These screenfolds are made of deerhide. Their graphic conventions as well as their figural vocabularies resemble the Mixtec genealogical group closely enough <sup>39</sup> to warrant discussion at this point, although the question of their individual geographic origins is unsolved. Seler thought they came from the region between Tehuacán and Oaxaca. Others relate them to Cholula polychrome pottery, which was prized in all provinces of Aztec Mexico and which may have originated in western Oaxaca.<sup>40</sup>

Two sub-groups are clearly marked. Borgia, Cospi, and Vaticanus B belong together in content and in style. Féjerváry and Laud both contain bar numerals, and their graphic style has qualities of elegance and precision missing in the more redundant, angular, and squat figures of the Borgia group. Féjerváry and Laud are drawn as if with fine metal wire bent and shaped to surround the figures. There is little description of textures, whereas in the Borgia group many kinds of hatching and striping re-inforce the colour distinctions. In the Féjerváry-Laud group, the scheme of the Five World Regions (Plate 55A) in the form of a Maltese cross (Féjerváry 1; Laud 43) closely parallels a cruciform arrangement of the 260 days of the ritual calendar in the Maya post-Classic manuscript called Troano-Cortesianus (Codex Madrid). Féjerváry and Laud are probably older than the Borgia group, as demonstrated by such affinities with Maya and Classic Zapotec figural or arithmetical conventions.41 The close resemblances between the Borgia group and Aztec manuscripts, like Borbonicus, Vaticanus A, and Telleriano-Remensis, in the strips showing the twenty weeks,42 relate them to the fifteenth-century art of central Mexico. But Féjerváry and Laud belong to an older stage of history, coeval with the earlier genealogies as to types, if not as to execution and style. We thus arrive at the following provisional arrangement for the chronology of south Mexican pictorial sources: 43

	RITUAL BOOKS	GENEALOGIES
Pre-1350	Laud Féjerváry-Mayer (Plate 55A)	Vienna I (Plate 53A), Zouche–Nuttall (Plate 52) Colombino-Becker (Plate 54B)
Post-1350	Borgia (Plate 55B), Cospi, Vaticanus B	Bodley (Plate 54A), Selden, Vienna back (Plate 53B)

The content of the ritual books is double: as cosmogonic illustrations, and as augural schemes. The powers of the gods and the rhythm of their influences upon human affairs are illustrated by images using a few fundamental motifs in many combinations. The screenfold strips are cyclical, either as radial panels or as sequences of panels. Both forms enumerate the divisions of recurrent time-periods, and illustrate the changing regencies of each division. The principal time periods are the 20 day-names, the augural year of 260 days (with 20 weeks of 13 days), the solar year (18 months of 20 days and a 19th month of 5 days), and the Venus year of 584 days (Plate 55B). Their cyclical coincidences are marked. Their divisions and combinations refer to space by the symbolism of the cardinal points. A change of direction accompanies each change of re-

gency, so that the passage from one quarter of the year to the next occurs under new regencies, and in another direction, symbolized by colours, and by god-, tree-, and bird-forms appropriate to the space-time combinations of the moment. As Soustelle remarks, every place-moment is represented by a cluster or hive of hierarchically ordered images of cosmic import.<sup>44</sup> Their endless permutation gave priestly auguries for the main events of public and private life.

Plate 55A shows a scheme symbolic of the calendar, with which the Féjerváry manuscript opens. The trapezoidal arms of a Maltese cross alternate with elongated loops in a figure reminiscent of the Maya glyph for the Zero of completion. Its outline contains 260 positions in anti-clockwise movement, punctuated at every change of direction, and at intervals of thirteen positions, by the initial day-signs of the twenty weeks of the ritual calendar. Large cartouches at the corners contain the four year-bearer days of the solar year sequence. Each trapezoidal panel contains two deities flanking a tree symbolic of that direction. The east is at the top. The central deity completes the cycle of the nine Lords of the Night. Their rotating regencies combine with those of the days, weeks, months, year divisions, and years to compose the peculiar properties of each and every moment of time.

Another cycle, based upon the planet Venus, comprises 584 days. Its combination with the ritual calendar of 260 days is implicit in many cyclical schemes, especially in tables stressing every fifth sign or presenting the ritual calendar by columns of five days. Thus Plate 55B, from the Borgia manuscript, sets forth one figure spearing another, in five variants surrounded by numbered day-signs. The day-signs are only 5 in number, each with 13 coefficients, marking the 65 Venus-year bearers, which corresponds to 104 solar years and 146 ritual years  $(65 \times 584 = 104 \times 365 = 140 \times 260)$ . The page commemorates the remarkable cyclical combination of these large numbers.

# Ceramics

Mixtec pottery has never been subjected to the minute analysis that characterizes the study of Maya, central Mexican, or East Coast ceramic types. At Yagul the tomb pottery of post-Classic date is orange-red ware with blackish graphite decoration. Among the shapes were an effigy jar, tripod censers with walls perforated in a geometric frieze decoration, pitchers, and a doughnut-shaped vase. 46 These shapes reappear in the polychrome tripod vessels (Plate 56A), painted with scenes and motifs almost identical with those of the deerhide ritual manuscripts. These types of polychrome vessels were widely distributed throughout Middle America 47 from the Atlantic to the Pacific coastal provinces, and from Sinaloa into Nicaragua and Costa Rica. The connexion among them all can be established by the vessel forms and by their iconography. The finest is Mixtec by subject-matter, although its manufacture is commonly ascribed to the vicinity of Cholula in the state of Puebla, and its date is commonly taken as Aztec. 48

Noguera distinguishes three varieties of polychrome pottery at Cholula – lacquered, matt, and hard-fired (*laca*, *mate*, *firme*) – which occur in chronological sequence as early, middle, and late, evolving from a stuccoed prototype whose decoration was applied

after firing, like that of Teotihuacán and Kaminaljuyú.<sup>49</sup> The stuccoed decoration was of Classic date; the lacquered, matt, and hard-fired varieties are post-Classic and of undetermined durations. The lacquered wares, painted after firing, were polished and then fired anew. The colours were applied upon a white ground of gesso-like consistency, which flakes away with light wear or pressure. Mixtee examples of lacquered polychrome pottery (Plate 56A) are easily distinguished from the Cholula versions by their more elongated legs, by the clear articulation of the flaring rims, and by the draughtsmanship, which is larger and freer than in the Cholula examples, and better adapted to rhythmic decoration of the bowl-shape.

Mixtec sculpture survives mainly in wood-carvings, bone reliefs, turquoise mosaic masks and instruments, and other lapidary works.<sup>50</sup> Mixtec jades are stereotyped productions, with anatomical features reduced to the simplest shorthand of straight sawcuts and tubular drill marks. In the wood and bone carvings, the manuscript style of conventional figures and calendrical inscriptions is as dominant as in polychrome pottery painting, so that one can properly characterize all Mixtec figural art as derivative from the workshops of the manuscript illuminators.

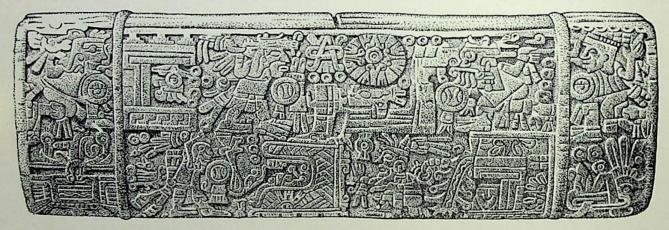


Figure 27. Wooden drum, Mixtec style, fourteenth century (?). London, British Museum

A two-tongued cylindrical wooden drum (teponaztli) in the British Museum is carved in low relief, recounting a battle between two towns in the year Three Flint (Figure 27). The carving, in only two planes, is more linear than sculptural, the frontal plane being incised with conventional contours and textures. The carved jaguar bones from Tomb 7 at Monte Alban and the gilded wooden throwing-sticks in Florence (National Museum of Anthropology and Ethnology) show a similar transposition of drawings into low relief carving.

Mosaic decoration of turquoise chips glued to a wooden support is of post-Classic date in both highland Mexico and Yucatán.<sup>51</sup> Toltec and Mixtec techniques differ in the shaping of the tiny chips. Examples of Toltec date (e.g. the plaque from the Chacmool temple at Chichén Itza) have straight-sided polygonal chips ground to a flat plane.<sup>52</sup> Examples of Mixtec origin resemble pebbly sharkskin (Plate 56B). This texture is given by the use of curvilinear and convex chips, surrounding figural designs in large pieces cut to the desired outlines, as in the seventeen specimens found in a Mixteca cave in

# SOUTHERN MEXICO

the state of Puebla.<sup>53</sup> Seven of these may be the work of one hand, in light and dark turquoise chips, surrounding brown and black stones, and bits of red shell. Of the same technique, and showing scenes of manuscript style, are shields in New York (Museum of the American Indian), Vienna (Naturhistorisches Museum), and London (British Museum).<sup>54</sup>

Metallurgy appeared late in Middle America. The earliest known example is of sixth-century date, occurring as an import from Panamá at Copán in the Maya area. The Toltecs of Tula and Chichén Itza produced metal objects in important quantities, from the tenth to the thirteenth centuries.<sup>55</sup> It is generally supposed that the Mixtec metal-workers learned the craft and developed their art only after the disintegration of Toltec civilization, that is, from about 1300 on. The most important discovery of Mixtec metal is the treasure of Tomb 7 at Monte Alban, where *cire perdue* castings, filigree objects, repoussé technique, alloying, plating, and soldering all appear. Their association with carved bones, of a figural style like that of the later group of genealogical manuscripts, supports a dating after 1350. The representation, however, of gold ornaments in the pre-1350 group of manuscripts (e.g. Vienna 47c-48a, Plate 53A, showing gold or copper bells on the dog-headed acolytes) suggests that the Mixtecs were also metal-workers at an earlier date.

The shape of several metal objects in Tomb 7 reflects Central American connexions. For instance, the gold breast-pendant of Plate 57A represents a skeletal figure as an open-mould casting, rising from two broad flanges which stabilize the heavy ornament in a flat position on the chest of the wearer. This form of pendant is Panamanian. Another gold ornament from the same tomb is hinged together (Plate 57B) of sixteen cast elements in six stages: at the top is a ball-court with two players. Hanging below are a sun disk, then a fiery flint, and an earth monster with bell pendants. The whole assembly probably pertains to the ball game as a symbol of the diurnal passages of the sun.

# CHAPTER 6

# WESTERN MEXICO

The hundredth meridian, or a line drawn north and south near Toluca, divides ancient Mexico into an eastern half, of high civilizations in densely populated regions, and a western half, of scattered, small, and isolated tribal groupings, whose archaeological history has been recovered only in the last twenty years. In the main, this western history comprises four principal stages: (I) an early era of Olmec style which endured many centuries in Guerrero, with sporadic manifestations farther west; (2) a middle period when many traits of a village art in the style of the Formative period were amplified in the funeral pottery of Colima, Jalisco, and Nayarit; (3) post-Classic intrusions of Toltec and Mixtec ceremonial forms in Michoacán and in the pottery of Sinaloa on the north-west coast; and finally, (4) coeval with the state which resulted from the Aztec conquest, the Tarasca civilization centring upon the lake district of Michoacán.<sup>1</sup>

Save in Guerrero, all these western styles of art were of recent origin, not antedating Teotihuacán III. Another striking peculiarity of the western cultures corresponds to the division by pre-Classic and Classic stages: in Guerrero, only the lithic industries seem to have survived, while in the rest of western Mexico, pottery products carry the record, almost to the exclusion of stone. Thus Guerrero alone has a pre-Classic archaeological history, and Guerrero alone is rich in stone manufactures. In other western regions, the artifacts are of Classic date or later, and predominantly ceramic in character. Guerrero belongs together with Olmec, Maya, and central Mexican art; the regions to the north and the west of it belong to another order of civilization which perpetuated early village art rather than the styles of the great ceremonial centres.

# THE STONE-WORKERS OF GUERRERO

South-west of Mexico City lie Tasco and Iguala, on the highway which crosses an ancient archaeological province. This province centres upon the middle course of the Mezcala river. The mining area of Sultepec marks its north-west boundary; Zumpango del Río and Chilapa define its south-eastern limit. Stone objects in great numbers come from the region without specific provenience, casually or illegally excavated and marketed.<sup>2</sup> One class is of Olmec style; another reflects Teotihuacán influence in the area; still another group of small face panels of stone is related to post-Classic funeral customs.

A fourth group contains hand-axes, carved to resemble standing human figures looking like insects. This raises a crucial question concerning the origins of stone sculpture.<sup>3</sup> To present knowledge, the Olmec style is the oldest dated style of stonework in Mexico. As suggested earlier (p. 66), the Olmec instrumental forms, such as hand-axes,

are perhaps earlier than the free-standing figurines which lack any obvious instrumental function. The Olmec axes occur in the Guerrero-Puebla region more commonly than on the Gulf Coast, and their material – sea-green and blue-grey jade – is typical of the Mezcala river basin, especially in the southern portion around Zumpango del Río. A case can be made for great antiquity in the Guerrero hand-axes, both because of their abundance, and because of the primeval character of their workmanship, which reduces the human figure to the simplest number of fundamental planes. Covarrubias believed that these axes from Guerrero were derived from Olmec types; they differ radically, however, from Olmec as well as Teotihuacán styles of lapidary work.

The Mezcala axes (Plate 58A) are utilitarian rather than ceremonial, usually between 4 and 8 inches long, with cutting edges, both at the feet and head, often heavily worn and scarred. The articulation by head, torso, and legs is intended for grasping. All the profiles and cuts betray economical design, to secure the most expressive and utilitarian form with the least expenditure of energy upon the cutting of the stone. The heads are usually cut in three planes: one curving plane for the forehead, and two planes beneath it, meeting at an obtuse angle to define the nose and eye hollows. The mouth and neck are rounded cuts; the legs are claw-hammer or chisel shapes, separated by another rounded saw-cut meeting the girdle at the level of the forearms crossed upon the abdomen. Even if their eventual dating should support Covarrubias's contention that they are derivative, the Mezcala axes will still afford the clearest demonstration of the basic system of the Stone Age lapidaries of Mexico. Geometric analysis recurs both in Olmec and in Teotihuacán types of jade-cutting, and it produces in other styles as well that abstract nobility of generalized expression so reminiscent of the early ages of Mediterranean sculpture.

The Olmec and Teotihuacán types in Guerrero have been discussed elsewhere (pp. 64 and 33) and in other connexions: here it is necessary only to mark Guerrero as a lapidary centre during both pre-Classic and Classic eras, in the production of handaxes in the Olmec style, and of stone figurines in the Teotihuacán style, noting that both are rare at their respective type-sites. Covarrubias has rightly insisted upon such hyphenated designations as Olmec-Guerrero and Teotihuacán-Guerrero, in discussing such pieces.

Covarrubias has also identified another style of small stone figures and face panels, which he assigns to the Mezcala river valley. They have in common a rectangular mode of cutting, which leaves a T-shaped ridge to define nose and eyes, island-like cheek areas, and thick-rimmed oval mouths (Plate 58B). Their date is probably post-Classic. Some examples have perforated eyes and mouths, suggesting their use as masks by living wearers.4

From farther north, between Tasco and Sultepec, come still other stylized head-forms with immense noses projecting like sails from boat-shaped faces. One example in the Diego Rivera Collection is laterally compressed like an East Coast hacha; the chin and nose are almost equivalent, so that the profile reads equally well whichever way up the piece is held.<sup>5</sup>

# THE POTTERS OF COLIMA, JALISCO, AND NAYARIT

The immense and variegated landscapes of western Mexico have been under intense archaeological study for over twenty years, but Miss Kelly, the foremost student of the ceramic provinces between Colima and Sinaloa, still regards her suggestions as 'largely impressionistic'. The Nayarit–Colima zone shows early occupation only at the time of Teotihuacán III, which is the period of manufacture of the large pottery tomb figures now scattered throughout the museums and private collections of the entire western world. Illegal excavation for commercial purposes has so long been the rule that an exact report on architectural form is available on only one plundered tomb near Etzatlán in Jalisco. Three underground chambers, connected by tunnels and entered by a vertical shaft, were dug in the dense soil during the Classic period. In the process, vault-like roofs with groined intersections were carved in the earth. These chambers resemble the shafted tombs of the upper Cauca river in Colombia (Figure 79).

The contents of the burials of the region cannot now be re-assembled,8 although it is supposed that the custom of building large underground tombs was restricted to the Ortices phase (equivalent to Teotihuacán III: Kelly) and that the large hollow red-ware figures and small, solid figurines in action were of the same era throughout the region from Nayarit and western Jalisco into Colima. Miss Kelly has not ventured any further distinctions among the figural types in the absence of all associations with graves, but it is evident that several generations of connected sculptural efforts are present, and that a simple typological seriation by technique, modelling, texture, and action can be attempted, with a good chance that the seriation will correspond to sequence in time.9 The attempt is made more difficult by the likelihood that many local schools of potters are represented in the collections. Ixtlán, Ameca–Zacualco, and Colima made probably

only a small part of the huge production we know today.

All groups, nevertheless, share a predilection for the representation of figures in action, shown at an instantly recognizable moment of some kind of energetic behaviour. In Colima and Jalisco individual figurines appear in poses of lifeless frontality, but these are perhaps characteristic only of the early period of the craft and of a certain iconographic type. The eyes are rendered by pellets of coffee-bean shape. Organic forms and costume ornaments appear as added fillets or pats of clay. The groups in action consist of two or more figures with coffee-bean eyes circling around seated musicians, to indicate a dance (Plate 59), or as a gathering of several figures to mark a household or temple ritual. Lovers are shown, and maternity groups, as well as acrobats, nobles borne on litters, and warriors in aggressive posture.<sup>10</sup>

In another group of Colima figures, the coffee-bean eyes are replaced by puffy, slit eyes, giving a somnolent look.<sup>11</sup> The proportions of the parts of the body are governed by a conception of the total movement to be shown. If great dignity and reserve are to be portrayed, the arms are stiff and rod-like and the back is rigid. If, however, dancers or musicians are shown, all the forms of the body undulate in interlacing rhythms. The puffy-eyed Colima figures probably followed the coffee-bean eyes, and in turn may

have been replaced by the anatomically accurate modelling of hollow red-ware figurines representing warriors, hunchbacks, and dogs and other fauna. Groups are infrequent, and the figures are much larger in this last class. It is unlikely that these profound technical and formal differences are local in origin; they must surely correspond to an evolution, lasting as long as the closely parallel sequence from El Arbolillo to Ticoman in the Valley of Mexico. This must have covered some five centuries, and several centres must have participated in all or part of the development.

The Ameca Valley figures constitute a recognizable group within the Colima style (Plate 60A), although the tombs yielding them are in the state of Jalisco, west of Lake Chapala. The clay is beige-grey, unlike the buff-brown and red-slipped Colima wares. The heads are much elongated, with long noses and large eyeballs. Early and late figures can again be distinguished. The early examples are sheep-faced. The late ones are more distinctly divided by an organic conception of the parts of the body. Early figures seem eroded or melted, in the continuous passages of modelling that unite rather than divide the parts of the body. Late figures are more animated, and more incisively articulated.<sup>12</sup>

Such differences also mark divisions among the Nayarit figures. The best known examples come from Ixtlán in the southern part of the state.<sup>13</sup> One group, of hurried manufacture, shows animated figures assembled in thatched houses or upon the terraces of a ball-court. They are of red or buff paste, painted in geometric lines of resist-colour, or in red, white, and orange textile-patterns. The technique and the modelling recall the Colima groups. It is likely that they both are of the same late pre-Classic date.

The second Nayarit group, of nude figures with puffy, slit eyes carefully blended into the faces, corresponds to the 'somnolent' Colima group, but the Nayarit figures are of superior execution, with variegated textures and a great range of figural poses and occupational types. The massing of heads and bodies bears little relation to visual impressions. The heads, with their balancing projections and the rich textures of straight hair and shell ornaments for ear and nose, and the bulbous bodies with limbs like filaments, form a most original rhythmic organization (Plate 60B). Indeed one has the impression that the sculptors of this group were the innovators in the hypothetical middle period. Their work intervenes between the production of small figures in action with coffee-bean eyes, and of the large, hollow figures with fully modelled eyeballs.

This last group is the best known of the Nayarit figures, and it has drawn both the praise and the abuse that attend the discussion of modern art. Gifford, for example, regards them as caricatures, while Salvador Toscano ascribed to them an 'energetic beauty', in spite of their defective firing and casual polychromy. Indeed the square bodies, grimacing mouths, and staring eyes convey a disturbing expression which is only in part resolved by the animation and plastic energy of the turgid forms. Two notably different manners appear in the Ixtlán group of the fully modelled eyes, and they may pertain to the work of different generations (Plate 61, A and B). One is adorned with four-colour painting in textile patterns, and the faces, whether of men or women, display a toothy rictus of savage ugliness, in long and angular countenances. The other Ixtlán group is far gentler in expression, with round, plump faces, raised eyebrows,

#### PART ONE: THE MEXICAN CIVILIZATIONS

round eyes, and a childlike expression of delighted anticipation, in opposition to the fiercely grimacing long-heads.

In review, each of the three regions produced different versions of the same style, in a developmental sequence of perhaps five centuries' duration that runs parallel to the events of the Valley of Mexico or the Pánuco series on the Gulf Coast. Each region, however, achieved outstanding quality at a different period. The Colima figurines in action, with their coffee-bean eyes, are the most animated ceramic expression of their era in western Mexico (Plate 59). The slit-eyed figures of Ixtlán in Nayarit <sup>15</sup> excel by plastic and rhythmic inventiveness (Plate 61A). The fully modelled warriors and crouching figures from Ameca in Jalisco (Plate 60A) are superior in technique and modelling, when one considers the stereotyped, hurried execution of so much Ixtlán pottery. Striking iconographic differences also separate the art of these three regions. The fattened and edible dogs of Colima, which reputedly were the guides of the dead in the other world, <sup>16</sup> are lacking in Jalisco and Nayarit. The Ameca figures of Jalisco abound in crouching and kneeling poses. The Ixtlán potters in Nayarit recorded a singularly graceful seated posture of the women: the legs are drawn in to the body as parallel and supporting elements across the base, a posture portrayed nowhere else.

# MICHOACÁN

The oldest known village sites are in the north-western part of the state, at El Opeño <sup>17</sup> and at the foot of Cerro Curuturán. Pottery and figurines of pre-Classic types, related to those of Zacatenco (prior to 500 B.C.) in the Valley of Mexico, are found in abundance. Another archaic centre is Chupícuaro in the north-east, where early and late phases occur. <sup>18</sup> The early pottery correlates with Ticoman II (c. 500 B.C.—A.D. 300). The origins of rectilinear geometric Chupícuaro pottery painting probably lie in north central Mexico. The early sculptural style appears in clay figurines with long, slanted coffee-bean eyes (Plate 61c): the late figurines wear heavy neck ornaments or chokers. Both types are slab-like. The choker figures were shaped upon a flat working surface, as if in an early endeavour towards the invention of the mould. The early examples have greater rhythmic and expressive properties than the late ones.

The western spread of the style of Teotihuacán is apparent in manufactures of the Classic period found at Jiquilpan in western Michoacán. The most notable examples are two spherical vessels of pottery (Plate 62A), decorated in the peculiar technique of lacquer inlay, probably native to western Mexico, which survives in the lacquered gourds of colonial and modern manufacture. The technique is usually called *cloisonné* or alfresco decoration in archaeological writing, but neither term is fortunate, as both already possess exact meanings, one in metalwork, the other in mural painting.

The Mexican lacquer-worker coated an inert, stucco-like support with pigments carried in a resinous and oily medium.<sup>20</sup> The thick foundation coat of pigment was carved away in recessed patterns, then filled with other colours. The analogy to enamel technique ('cloisonné') is less close than the comparison to marquetry or inlay. The

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Jiquilpan vessels are painted in six hues as well as grey and white, in five friezes of processional figures. On the rounded bases are medallions of a winged human and a bird-like decoration. Covarrubias maintains that these vessels were lacquered, and that their present powdery aspect, as of fresco painting, is due to the decay of the organic matter in the lacquer medium. With Jiquilpan and its objects in the Teotihuacán style, a few other sites in Michoacán can be associated to form an 'Early Lake' style. There is no metalwork, and the pottery may antedate the first appearance of a recognizable Tarasca culture.

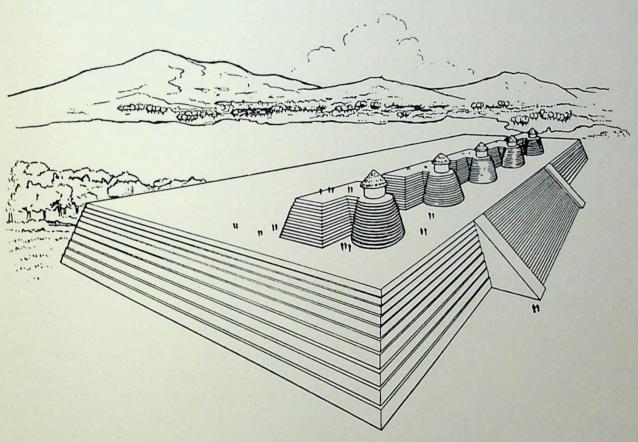


Figure 28. Tzintzuntzan, yacatas, c. 1500. Perspective

For many years the term 'Tarascan' was indiscriminately applied to practically all ancient western Mexican products. Today the Tarascan civilization is believed not to antedate the tenth century.<sup>21</sup> Two phases, limited to the lake region, are known archaeologically: the early one perhaps antedates the Toltec horizon, with an architecture consisting of round and rectangular platforms, called *yacatas* (Figure 28). The use of tobacco pipes has been taken to show Tarascan origins in the far north. Metalworking (possibly of South American origins) was limited to the manufacture of needles and hooks of copper wire. The later phase of Tarascan political expansion is post-Toltec.<sup>22</sup> Among its productions are Chacmool figures, elaborate lapidary work in obsidian and turquoise, and lost-wax casting of objects in gold, silver, and copper.<sup>23</sup>

The yacatas of Tzintzuntzan on the eastern shore of Lake Patzcuaro are five burial platforms aligned in a row (Figure 28). Each had twelve stages of rubble faced with stone

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slabs and all stood upon a primary platform ten stages high (13 m.; 43 feet) which in its day was among the most imposing monuments of America, comparable to the pyramid at Cholula.

The whole configuration of Tarascan art is eclectic. The circular platforms probably relate to the Huasteca and central Mexico (Cuicuilco). Resist-painting and tobacco pipes may reflect northern associations as far afield as the south-western United States. The metalworking and the ritual sculpture (Chacmool figures) suggest debts to Toltec and Mixtec sources.

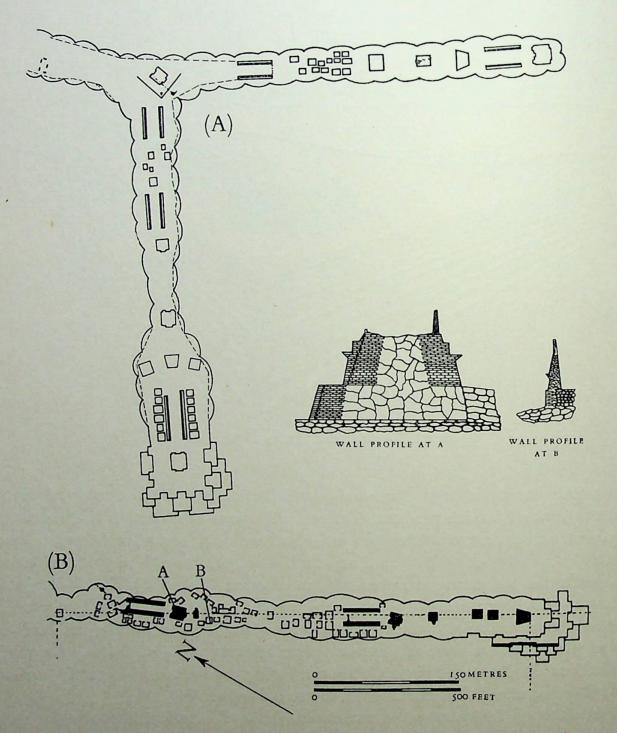


Figure 29. Las Ranas (A), and Toluquilla (B), 700-1000. Plans and profiles of walls

#### WESTERN MEXICO

An analogous debt to Mixtec art is apparent in the far north-west, at Guasave in Sinaloa. The tentative date assigned to this 'Aztatlán polychrome' pottery is about A.D. 1350, on the strength of the parallels with pottery in the Cholula area.24 The Mixtec-influenced decoration in Sinaloa includes such elements as feathered serpents, sun disks, wind-god symbols, flint knife motifs, and heart and blood conventions which all relate more directly to post-Classic book illumination and wall painting than to any other sources. The figure painted in the bowl shown on Plate 62B represents a feathered personage with a human skull, wearing sandals and a serpent-mask head-dress, resembling Tlahuizcalpantecutli, the Aztec god of the morning star, whose cult is shown in Mixtec and Aztec manuscripts. The transposition of this motif from central to northwestern Mexico was, according to Ekholm's deductions, through actual migration of religious groups. In Sinaloa, however, no monumental sculpture, no clay figurines, and no stone architecture are evident: only painted pottery of faintly Mixtec style persists. The 'Aztatlán Group' was succeeded by a simpler polychrome style in Culiacán, with early, middle, and late stages, to which very short durations are given (1400-1520).25 If these durations should be expanded, the position of the Guasave pottery under Mixtec influence will have to be moved back correspondingly.

# THE NORTHERN PLATEAUS

North of the Valley of Mexico, architectural sites are few and widely scattered. Toluquilla and Ranas in north-eastern Querétaro are in the Atlantic watershed of the Moctezuma river, which flows into the Gulf at Pánuco. Farther north-west are La Quemada and Chalchihuites in Zacatecas on the Pacific watershed. Toluquilla and Ranas display affinities with Tajín, Xochicalco, and the Maya region. La Quemada and Chalchihuites are related to Tula and Toltec architecture.

Toluquilla and Ranas (Figure 29), about 50 miles north of Querétaro, are alignments of terraced platforms and buildings along narrow ridges rising abruptly from the surrounding plains. Las Ranas has five ball-courts set among many square and oblong platforms of steep vertical profiles. The combination of tall talus profiles, capped by prominent bevelled cornices, belongs to the architectural style of Tajín. Half a ball-game yoke of basalt, carved in the Classic Veracruz style, with a profile head upon the heel, and interlaced scrolls upon one flank, was found at Ranas, 26 confirming the relationship with Tajín as well as the Late Classic date of these sites. They probably defended the headwaters of the valleys giving access to the coastal civilizations from attack by highland invaders, more by their presence than by overtly defensive arrangements, which characterize a stage of Middle American architectural development after the Toltec era.<sup>27</sup>

Such fortifications, with circumvallations, on inaccessible sites dominating their surroundings, appear at La Quemada and Chalchihuites in the state of Zacatecas.<sup>28</sup> La Quemada is a walled hilltop town approached from the west by a causeway 100 yards wide. The most distinctive enclosure is a rectangular walled platform, lined on all

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four sides by eleven round columns of shaped spalls of feldspar, in the manner of a colonnaded court, like the Mercado buildings at Chichén Itza (Figure 59) and Tula. A similar colonnaded enclosure at Chalchihuites has twenty-eight columns in four rows of unevenly spaced and irregularly proportioned shafts of stone, clay, and adobe bricks. These architectural forms strongly suggest a building date during the Toltec era or soon after, i.e. between the eleventh and fourteenth centuries.

# PART TWO

# THE MAYA AND THEIR NEIGHBOURS

## CHAPTER 7

# THE MAYA TRADITION: ARCHITECTURE

## CLASSIC MAYA

THE Classic Maya peoples produced objects both of use and of pleasure with tools of stone alone. The Marxist stereotype, that cultural behaviour is determined by the instruments of production, finds no confirmation in Maya art. Its forms, though comparable to those made by the metal-using civilizations of Mediterranean antiquity, belong technologically to much older, Neolithic horizons of prehistory.

Classic Maya art spanned the centuries from the time of Christ until about 1000, and had its home in central Yucatán, bounded on the south by the Guatemalan highlands and on the north by a flat and dry limestone plain. The term 'Classic' distinguishes monuments exactly dated by inscriptions in Maya calendrical notation from pre-Maya, from non-Maya, and from Toltec Maya manufactures after 1000. Classic Maya art consists <sup>1</sup> of stone architecture using corbelled vaults and burnt-lime cement or concrete; of stela-like slabs and prisms of stone carved in low relief commemorating the priests, the warriors, and the various periods of Maya history; and of calendrical inscriptions which permit exact dating, to the day, within a 700-year range. Other products, such as painted pottery and jade carving, are often part of manufactures of the Classic style, but they are not constitutive or diagnostic, in the sense of the corbelled vault, the stela, and the calendrical inscription, which define Classic Maya art.<sup>2</sup>

The corbelled vault (Figure 30) is a system of cantilevered stones, each placed to overhang the course immediately underneath. The Maya vault consists of bearing walls, capped by the overhanging vault, which is of about the same height as the bearing walls. The spatial enclosure is attained simply by the inclination of two or more walls towards one another. The system is inherently unstable. Its equilibrium depends upon a nice adjustment among the unstable overhangs, and upon various devices of counter-balance. Burnt-lime mortar, cement cores, wooden tie-rods, and special stereotomic forms, such as the boot-shaped stones used in late vaults, contributed to stability.<sup>3</sup> End walls and cross partitions also played a part (Figure 30B). The use of cement or concrete bonding is a Maya habit, absent from non-Maya examples of corbelled vaulting from the southeastern United States to southern South America.<sup>4</sup> The central Maya roof decoration, called roof-combs (Figure 30A), and the north Maya false fronts, or flying façades

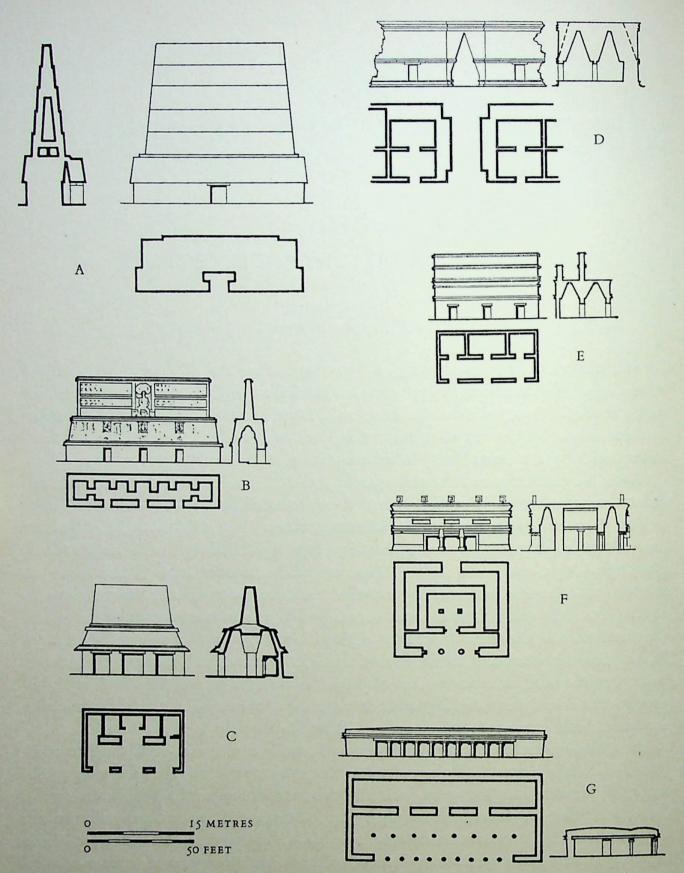


Figure 30. Regional types of Maya vaulting technique: plans, sections, elevations. (A) Tikal, Temple V, c. 500. Petén roof-comb; (B) Yaxchilán, Structure 33, c. 500. Interior buttressing; (c) Palenque, Temple of the Cross, fifth century. Mansard roof; (D) Uxmal, Governor's Palace, tenth century. Cleavages in vault mass; (E) Chichén Itza, Red House, tenth century. Flying façade; (F) Chichén Itza, Castillo, thirteenth century. Platform building; (G) Tulum, Castillo substructure. Mortar-beam roof

(Figure 30E), were regarded as loads, and thus were meant yet further to counterbalance the bearing walls against the unstable overhangs. Usually the Maya vault is set with thick wooden tie-rods spanning the interior overhangs. They were probably inserted as construction went on, in order to keep the overhangs apart during the long hardening period of Maya mortar, and they later served as rods from which to hang the belongings and the hammocks of the occupants. The buildings of stone and mortar were principally for religious use. As dwellings, houses of wattle and thatch were preferred because of their good ventilation and easy replacement.<sup>5</sup>

The stela of Classic Maya art is a free-standing monument having the shape of a slab or prism, often rounded at the top, and occasionally approaching human contours. The stelae usually recorded the passage of time by elaborate inscriptions (Figure 31). Wooden stelae may have preceded those of stone, which mark the known duration of central Maya civilization, and many districts may never have erected anything but wooden ones. In any case, the 'Stela cult' records priestly computations of historical time and of astronomical events, and it delimits the spread of Classic Maya art. The figural themes of the stelae are usually standing male figures elaborately dressed, representing warriors, rulers, priests, or god-impersonators. They are often accompanied by minor accessory figures as well as by sky bands, masks of symbolic monsters, and extensive inscriptions.

Maya writing 6 consists of framed and composite signs, which are still called 'hiero-glyphs' because only one-third to one-half of a total of about 270 forms have been deciphered. Pre-Columbian texts are of two kinds and of two eras. The earlier are epigraphic, consisting of monumental inscriptions upon stelae and buildings, all of Early and Middle Classic date. The later texts consist of screenfold manuscripts of bark-paper (Plates 63A and 104, A and B). Only three of these are preserved. The inscriptions and the manuscripts 7 contain dates, astronomic tables and computations, references to deities, ritual prescriptions, and directional symbols. The writing has been recognized as a composite system, neither purely ideographic nor purely phonetic, but containing statements in both modes.

The typical written expression of the Classic era is a date inscribed on stone or in plaster, giving the number of days which have elapsed since an arbitrary starting-point (Figure 31). The inscriptions of this type are called Initial-Series statements,<sup>8</sup> and they usually record the date of erection, by enumerating the 400-year periods that have elapsed since zero, as well as the 20-year periods of the current 400-year cycle. The dating of the actual monument in the current 20-year period and in the 360-day ritual calendar are also given. Additional particulars concerning the age of the moon, and specifying the divine regencies engaged in the astrological composition of the moment, appear on other glyph blocks. Computations relating the vague solar year to the actual position of the earth in relation to the sun occupy another series. The system includes glyphs for numbers, for periods, for deities, for directions, and for ritual prescriptions, as well as for augural declarations. The chronographic record is accurate, for no Initial-Series date could recur until after 374,440 years, and it is durable, for the Initial-Series inscription is so redundant that its main message can be reconstructed even when two-

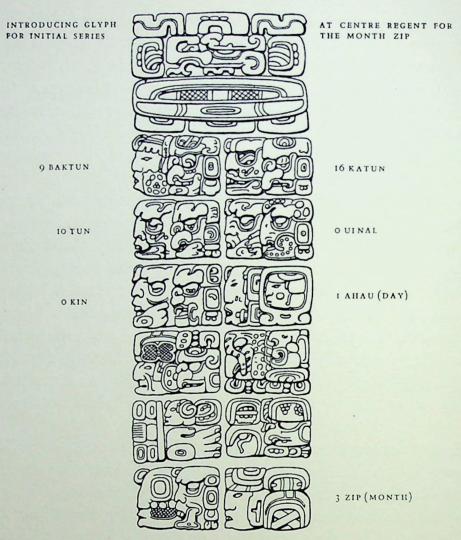


Figure 31. Quiriguá, Stela F, with transcription of Initial-Series and Supplementary-Series dates. Stela F at Quiriguá uses face numerals; namely, those of the gods who preside over numbers.

#### The reading here is

144,000	1,296,000	days
7,200	115,200	,,
360	3,600	,,
20	0	,,
I	0	,,
	20	7,200 II5,200 360 3,600 20 0

This number added to Maya zero reaches 1 Ahau 3 Zip, 18 May 501

thirds of the glyph blocks are destroyed. In Classic Maya history each time period, down to the single day, was personified and deified. The worship and ritual of the time-periods still continues in an attenuated tradition among remote highland communities of Guatemala and southern Mexico.

The three remaining manuscripts are at Dresden, in Paris, and in Madrid. They are painted on screenfolded fig-bark paper. They treat of astronomical tables and calculations, of horoscopes, and of ritual prescriptions. The characteristic subjects of the Dresden and Madrid manuscripts are divinatory tables based upon various intervals in the 260-day ritual calendar (Plate 63A). This calendar, which governed the auguries, arose from the combination of the 20 day-names with a week of 13 positions, and it is distinct

from the solar calendar, which had 18 months of 20 days with a 19th month 5 days long. The ritual calendar of 260 days gave any day its name and its week position; and the solar calendar gave it a month position. No day-name (e.g. Ahau, occupying the fourth day in a 13-day week) could recur until after 260 days, and its combination with a month position (e.g. 8 Cumhu) recurred only after  $260 \times 365 = 18,980$  days, or 52 years and 13 days of our time.

The three distinguishing traits of Classic Maya tradition – the vault, the stela, and the dated inscription – all attest an obsession with recorded permanence. More than any other civilization of America, the Maya peoples of antiquity left their conception of themselves and of the universe in an indelible record of monuments marking historical intervals. The dated sequence of Maya monuments is the most complete of its type in older human experience. All other historical records of the same era are less detailed and less extensive. No ancient people kept more complete tallies of time than the Maya, whose technological equipment resembled that of the Neolithic flint-knackers and pottery-makers of prehistoric Europe and Asia.

# Geographical Divisions

By analogy with Egypt, students used to divide Maya history into 'Old Empire' in the south and 'New Empire' in the north, separated by a 'Transition' in the west. 10 The 'Old Empire' sites were thought to have been abandoned because of the wasteful and destructive milpa system 11 of burning the forest to secure fields, and it was believed that the northern plain was not settled until an exodus from the 'Old Empire', marked by the abrupt cessation of the Initial-Series inscriptions about 628. Since about 1930, and owing to the researches of the Carnegie Institution of Washington, these conceptions have altered. 12 The tradition now referred to as Classic Maya differs from 'Old Empire' by its spread throughout the peninsula, as at Cobá or the southern parts of Chichén Itza. Toltec Maya differs from 'New Empire' by much more limited geographic and historical definitions. The older conception of a 'Transition' period and province has been absorbed into Classic Maya, on the evidence of dated inscriptions and ceramic remains. Classic Maya therefore has become synonymous with the Maya tradition. Its regional variants, which used to be treated as different historical epochs, can now be examined as ecological types, as adaptations to differing environmental conditions. Three such types seem warranted: the Central Petén district of Guatemala, where the ancient cities stood upon or near the forested shores of connecting lakes that today are swamps called bajos; the river valleys, such as the Usumacinta and the Motagua; and the cities of the plain in central and northern Yucatán.

The three types, lakeshore cities, fluvial cities, and the cities of the plain, refer to ritual concourses rather than to habitation centres with clustered dwellings. This separation between dwelling and ritual centres is typical of the Classic era throughout ancient America. At Copán (Figure 35), for example, the immense ritual platform assembly overlies an earlier village cluster of dwellings. It suggests the domination by a religious hierarchy among agrarian peoples with a lay culture distinct from that of the priests.

The hierarchy was homogeneous, but the subject agrarian peoples may have been of quite distinct and various local origins in each of the principal districts.

The Petén today is uninhabited. Its population in antiquity numbered about 270 persons per square mile, or slightly more than modern New York State. <sup>14</sup> In physical conformation, the Petén is a region of troughs separated by hilly ranges descending from the Guatemalan cordillera. Each of the parallel ranges of hills has steep escarpments facing south. Run-off water accumulates between the ranges in what are now swamps. These bajos were formerly lakes, which have slowly silted up by erosion following the destruction of the forest cover by farmers and builders of the Classic era. <sup>15</sup> Today sites like Tikal are thus uninhabitable largely because of the scarcity of drinking water (in a land of tropical rainfall). In antiquity such concourse centres were approached and connected by bodies of inland water. Their shores today are marked by the ruins of the Classic Maya cities. The only survival of an ancient physiographic setting of the Petén Maya type is the cluster of lakes surrounded by ruined temples and courts at Cobá in northeastern Yucatán.

The equally desolate river cities of the Usumacinta and Motagua drainages cannot, however, be explained by water shortage, since the supply never failed in those broad streams or in their confluents, which flow past the river-bank courts and terraces. Possibly the mode of agriculture is to be blamed, although it is not clear whether the modern milpa system of Yucatán prevailed, with its burning and planting cycle, or an intensive cultivation on terraced and permanently cleared fields. Nor is it known who smashed the heads and faces of the Piedras Negras reliefs, although the fact of wilful destruction may indicate some social catastrophe.

The limestone plain of Yucatán, covered with a thick low bush, unlike the high forest of the Petén, lacks important bodies of surface water. Its settlements all depended upon the underground water table, reached through breaks and openings in the limestone crust. A range of low hills divides the western half of Yucatán into a southern district called the Chenes (well country), and the Puuc (hill country) in the north and west. The Chenes territory is the northern continuation of the Petén, with close stylistic ties to the Petén, although the physical environment is categorically different. The Puuc district was probably the most fertile and the most thickly peopled part of the peninsula, depending for water on storage in underground cisterns of natural origin, called chultunes. Open cisterns, where the limestone crust has collapsed, are cenotes, like the 'well of sacrifice' at Chichén Itza in northern Yucatán.

The east coast is a distinct archaeological province of Yucatán. Its vegetation, like that of the entire east coast, is dominated by forests rather than by the dry scrub of western Yucatán. It contains both Early Classic and late stages of Maya civilization, represented respectively by monuments of Petén type (Cobá) and by Toltec buildings. A late style of small temples has been assigned to the end of the fifteenth century.

# Temporal Divisions

The reconstruction of the periods of Maya history is based upon inscriptions, manuscripts, ceramic evidence, and radiocarbon measurements of age. <sup>16</sup> Each class of sources permits a partial sequence. The epigraphy yields a day-to-day chronology for the Classic era spanning about 600 years. The colonial chronicles (Books of Chilam Balam) contain Toltec Maya history arranged by twenty-year periods. The ceramic sequence allows only a very coarse time-scale, with large overlapping gradations. The radiocarbon dates still do not finally clarify the correlation of Maya and Christian time. The Spinden correlation has recently lost ground to the Thompson correlation on the strength of new

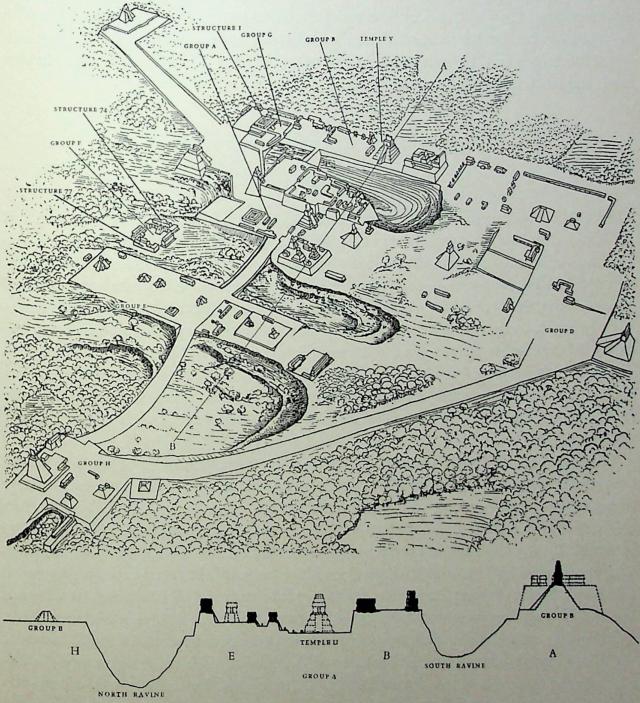


Figure 32. Tikal. Plan and section c. 600

dates from Tikal. These correlations key the same event to earlier and later positions in Christian time, about 260 years apart, as seen in our Table on p. xxxiv.<sup>17</sup> I have nevertheless retained in text and plates the Spinden correlation because of its superior convenience for the description of stylistic events. Readers who prefer the later correlation need only add 260 years to our equivalents.

The stylistic sequences of Maya architecture, sculpture, and painting indicate a geographical progression. The various regions rose to dominance each in its turn, beginning with the pre-Classic monuments in the Petén. The southern river valleys assumed the lead towards the end of the Early Classic period, and yielded it to the Puuc region in Late Classic times. Following the Late Classic Puuc period, the Mexican domination of Maya culture by Toltec masters, treated in Chapter 9, endured at Chichén Itza for about three centuries. The pre-Conquest history of the Maya peoples terminated in a long era of disunity and cultural decline, of which the archaeological record is given by Mayapán, in the fourteenth and fifteenth centuries. At this time the lake and river cities farther south had stood empty and ruined for about 700 years.

# CLASSIC ARCHITECTURE

# The Petén

The Petén <sup>19</sup> contains the most ancient Classic Maya sites. Their form is best described as 'island cities' or 'archipelago cities', consisting of many groups of platforms and buildings on knolls and shoulders of hilly land rising above the surrounding swamps, which may have been lakes in antiquity. The different groups on one site are connected by causeways, as at Uaxactún where they extend for 3 km. (nearly 2 miles) from northwest to south-west, with each of the six groups orientated approximately upon the cardinal points. One purpose of the causeways is to extend the ordered space of the plazas. At Uaxactún Groups A and B face each other from south and north across a ravine, with about 275 yards between the centres of the two groups. Group A has the higher and larger plaza of the two U-shaped courts opening at the ends of the inclined causeway.

Tikal (Figure 32), 30 miles south of Uaxactún, has nine groups of courts and plazas, separated by ravines but connected by causeways and ramps. At Nakum the subordinate northern enclosure connects with a southern main plaza by a roadway about 80 feet wide. It runs between parallel rows of long, narrow, and discontinuous platform mounds. But the plazas are not reciprocating, as at Uaxactún, for the vistas in the roadway are blocked at both ends, and the assemblage has a bifold rotational symmetry, or a Z-form. Ixkun displays a northern variant on the pathway site: a north–south road about 800 yards long connects the temples on two small hills. Midway between them, and opening on both sides of the roadway axis, is a connected system of small courts.

Cobá, in north-eastern Yucatán, is a site of Petén type, with ruined groups of buildings clustering near a chain of small lakes, all connected by raised roads of roughly shaped stone.<sup>20</sup> At several points these causeways separate small bays or inlets from the

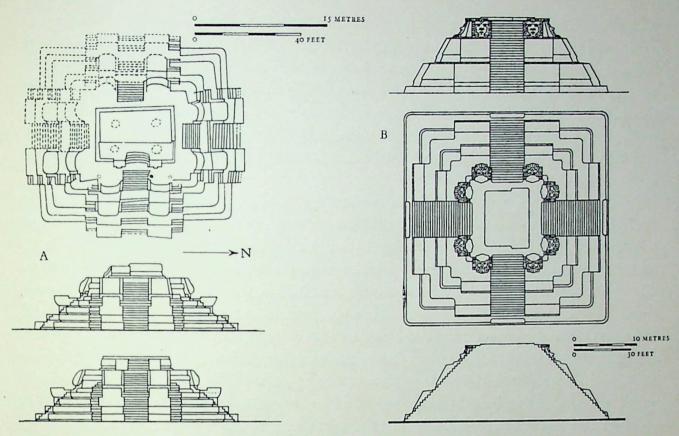


Figure 33. Radially symmetrical platform plans, with elevations. (A) Uaxactún, Platform E VII sub, first century; (B) Acanceh, ninth or tenth century (?)

body of the lake, making tanks or reservoirs like those between Groups A and E, or A and B at Tikal in the Petén (Figure 32), where the ravines were dammed by causeways.<sup>21</sup>

Within the courtyards, it is difficult to identify the functions of the various platforms and buildings. In Petén Maya architecture, the rooms were always much less important than the masses. The design of an edifice was secured less by the enclosure of rooms in an articulated envelope than by the ponderous combination of vast masses, solid throughout, sculpturally related, and structurally static. Thus the idea of a unit of architecture differs greatly from our own. The greatest uncertainty surrounds the identification of the functional types. The alleged 'palaces' and 'temples' merge into one another by continuous gradations. Probably a cardinal objective of the Maya architect was to achieve differentiation by height, in many levels marking the rank of the vague functions to which the edifices were dedicated. At the same time he was always extremely sensitive to the spaces engendered between and among edifices, seeking to achieve large and rhythmically ordered open volumes. Such open volumes with storeyed changes of level are the most striking formal achievements of Maya architectural history.

The free-standing pyramid was the dominant form among platform types used by Maya architects. In the Petén, the oldest extant pyramid, called E VII sub, at Uaxactún, is of pre-Classic date, built about the first century A.D. (Figure 33A). Of radial symmetry, its axes of reflection are the four staircases and the four inset corners. Its plan recurs at Acanceh (Figure 33B), and in Toltec Maya pyramids, a thousand years later, at Chichén Itza, in the Castillo (Figure 57), and at Mayapán in northern Yucatán.<sup>22</sup> Each of the four

fronts suggests and requires a monumental environment. Every approach is of equal value, and the form itself induces further symmetry among its neighbours. It is a rare form in America, used sparingly even by Maya architects. Other large pyramids display only bilateral or mirror symmetry. The axis of reflection is a central stairway. At best, this form commands two environments, and usually only one, as at Tikal, where the main pyramids have but one main stair, with forbiddingly steep angles on the side and rear façades. At Balakbal (Structure VI), the stairways at front and rear command two approaches.

Assemblages of several buildings in the Petén can often be identified as geomantic groups,<sup>23</sup> serving as monuments of significant horizon positions of the sun and perhaps the stars. About eighteen such groupings between Ixkun and Río Bec have been identified. Many may have been merely ritual rather than for observational astronomy. Group E at Uaxactún has a pyramid facing east. Across the court, three temples stand upon a narrow north-south terrace. From the pyramid stairs the rising sun emerged over the northernmost temple on the equinox (21 March, 21 September) and over the southern temple on the December solstice. Such arrangements obeyed celestial relationships, and they reflected the order of the cosmos in the spatial design of the little court-yards surrounded by platforms and temples, keyed together by astronomical sight-lines.

The Petén Maya architect habitually thought in groups of platforms and buildings, rather than single and isolated units. He preferred the long, narrow platform, bearing a chain of narrow rooms, and serving with other platforms to enclose a court. Thus, at Nakum, Structure D marks the south side of the main plaza by a façade over 130 m. (425 feet) long and 10 m. (35 feet) wide, containing about forty-four rooms opening north and south by narrow doorways.<sup>24</sup> At Tikal, Group F is a quadrangle of four buildings (Structures 74, 77) <sup>25</sup> forming an open-cornered quadrangle. Structure 1 in G, due south of F, makes a closed-corner quadrangle, probably of late date, resembling the 'palace' of Palenque, but lacking its permeable structure of wide doorways separated by narrow piers.

At Uaxactún, Structure A V <sup>26</sup> is the best studied assemblage of this type (Figure 34). The successive efforts of many generations to enrich, variegate, and recompose the quadrangular entity have been dissected by careful excavation. The progression is from separate temples assembled around a small platform court, through seven stages of remodelling, with chambered 'palace' structures replacing or overlaying the earlier single-chamber edifices. The interlocking levels, unified by sweeping stairs, are characteristic of Petén architecture, reflecting influences from neighbouring Maya regions, without loss of the conservative Petén style of massive effects.

Of the ball-courts so common in the river-valley sites farther south (Plate 66A), there is so far only one certain example in the Petén: at Tikal. Ball-court markers occur, such as circular slabs with reliefs portraying players,<sup>27</sup> but the court platforms appear only at Cobá and at Tikal. Perhaps the Petén, like Teotihuacán, flourished and settled upon definitive architectural types before the invention or spread of the monumental ball-game court, which on this reasoning might well be ascribed to mid-Classic times.

The structural history of Maya architecture is concerned with four items: the stones,

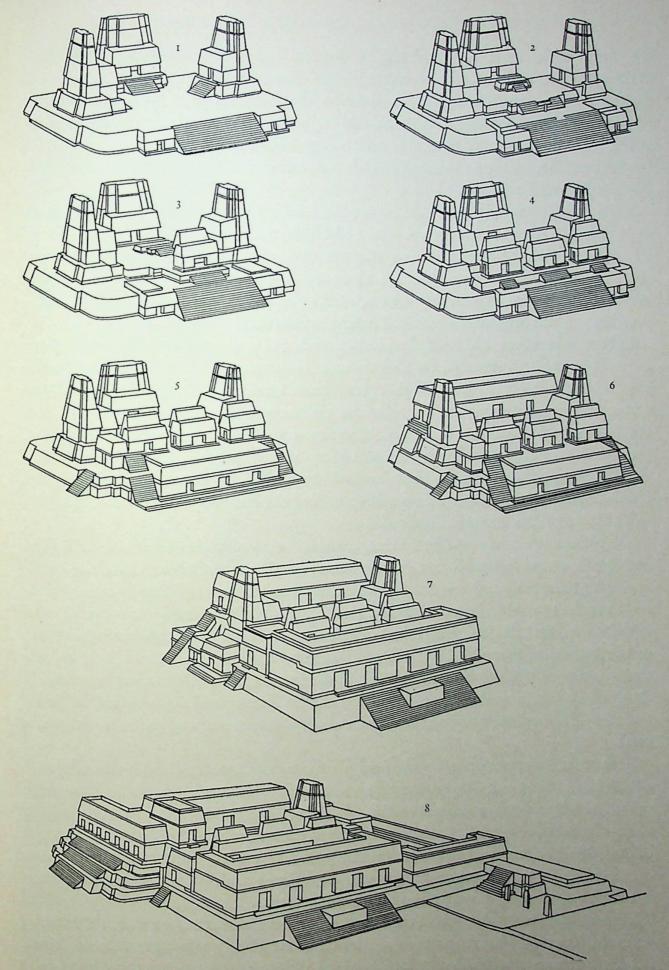


Figure 34. Uaxactún, Structure A V, showing eight stages of enlargement, c. 200-700

the mortar, the support, and the vault. The general line of development is from block masonry to a concrete core veneered with ashlar slabs, from massive wall structure to slender piers or columns, and from narrow, slot-like chambers to intricate combinations of rooms which afford one another mutual support.<sup>28</sup> But in the architecture of the Petén, we find only the more conservative moments of the development, limited both by older traditions and by the absence of the concrete which characterizes later stages in Usumacinta and Puuc cities.

Petén buildings usually have stone cores faced with stucco. The core changed from early unshaped stone to block masonry in mid-Classic times. At Tikal, massive walls and trimmed vault spans assured a stability that has survived even the removal of the *zapote* wood lintels from the temple structures. Lime coatings were more lavishly used in early periods than later on, presumably because of the gradual exhaustion of easily available supplies, and also because of improvements in stone-cutting techniques.

Columnar supports, whether cylindrical or rectangular, are absent in the Petén. Only heavy piers, really portions of wall, separate the doorways of multi-chambered buildings. It is often implicitly assumed that pier, square column, and round column represent a development sequence. Actually the three types should be regarded as geographical peculiarities rather than as evolutionary steps. Wooden supports were used in the earliest stages. Since the shafted support of wood is archetypal, its replica in stone or clay is not much later. On the Petén and Motagua sites, however, the builders were chiefly interested in the massive design of space, and the doorways were minor incidents in the sculptural treatment of the façades.

The enrichment of the profiles by inset corners, by mouldings, batters, crenellations, and by the vertical façade projections called roof-combs are all indigenous to the Petén, appearing there early and persisting late. A chamfered talus moulding in the pyramid faces is both very old and very common. The chamfer is a horizontal groove or channel in the lower part of each sloping talus component. The earliest example is in the lower terrace corners of Pyramid E VII sub at Uaxactún (Plate 65). At Tikal (Plate 64) the chamfer cuts deeply into the base of each of the huge aprons of the temple pyramids. Its visual purpose is to underline by shadow the brilliantly sunlit apron face. In fact it secures a double effect: it stresses the divisions between terraces, and levitates each apron mass.

Re-entrant, inset corners on pyramidal platforms are a trait shared by buildings in both lake and river cities. In ground plan these edifices show an 'internal' rectangle or square, of which the presence is revealed only at the corners. The centre of each sloping face is augmented by substantial buttress-like increments, which furnish vertical accents binding the horizontal components. Pyramid E VII sub at Uaxactún is the earliest example (Plate 65), with triple-ramped stairs and tiered mask-panels. The inset corners interlock in a weaving of vertical and horizontal accents. The main temple pyramids of Tikal are classic examples, where the recessed corners function as powerful shadowed verticals (Plate 64). The temple pyramids of Cobá are closely related to those of Tikal, but their corners are rounded insets like those of Piedras Negras in the Usumacinta Valley (Plate 66B). Outside the central Maya territory re-entrant corners are rare, recur-

ring to present knowledge only in the terminal generations of Aztec architectural history. The aproned roof profile, usually called 'mansard' (Figure 30c), is another trait shared by Petén and Usumacinta architecture. Northern instances, as in the top stage of the Nunnery at Chichén Itza, are rare. In the Petén, the apron usually overhangs the bearing wall, protecting its surfaces from the weather (Figure 30A). The angle of inclination is never as extreme as in the Usumacinta buildings. It usually repeats the chamfered apron profiling of the pyramidal substructure, and it enhances the massive aspect of the building. Structurally the device recalls the thick, overhanging mat of

thatch on house-mound dwellings.

The roof-comb is peculiar to Maya architecture.<sup>29</sup> It served to identify and to mark the importance of certain buildings by a vertical enlargement of the silhouette. In the Petén, roof-combs are usually of solid wall construction, often loaded upon the rear bearing wall, and even upon the capstones of the tiny vaults within the temple (Figure 30A). The Petén roof-comb is like the back of a throne. The building itself is the seat, and the pyramid the dais (Plate 64). Dark figures enthroned in the interlaced decorations of the roof-comb often complete the scheme of seated majesty. In the Petén and in the river valleys, such figures are framed by the building, both in the pre-Classic pyramid at Uaxactún and in the latest monuments of mid-Classic date. In western and northern Yucatán, on the other hand, the sculpture sometimes invades the tectonic field, as in the serpent-mask façades of the Puuc and Chenes districts in the Late Classic centuries.

Certain geometric and proportional habits require comment. Maya architectural symmetry is never rigorous, though it always indicates correspondence with the masses distributed in rough balance to left and right. When exactly measured, the angles are rarely true. Apparent right angles invariably lack or add a few degrees. Only the visual effect is regular, and it was secured without close calculation. Classic Maya buildings also display strong variations in their proportional composition according to region and period. The essential parts of the elevation are the bearing zone and the vault zone. In the Petén, the roof apron and the bearing wall are as 1:1, although late buildings favour the roof over the bearing, in a proportion like the 5:4 ratio of late buildings in the river cities.

# The River Cities

The base of the peninsula of Yucatán is traversed by two principal river drainages flowing in opposite directions. The Motagua and its confluents mark a south-eastern province of Maya civilization; the Usumacinta and its tributaries flow towards the northwest to empty into the Gulf of Mexico. The central stretches of the Usumacinta river are narrow rapids, not easily navigable. The lower Usumacinta faces the flat Tabasco lowlands and the Gulf Coast of Mexico. Thus three distinct geographic groups of river cities are indicated: those of the eastern Motagua basin (Copán and Quiriguá); those of the central Usumacinta (Yaxchilán and Piedras Negras); and those of the lower Usumacinta (Palenque and Comalcalco).

The three groups mark the land boundary of Classic Maya civilization, as well as the history of its early expansion. The occurrence of Initial-Series inscriptions usually charts

the spread of theocratic Maya social organization. The union of monumental corbel-vaulted architecture with such inscriptions has repeatedly been established. The earliest Initial-Series dates commence at Copán about A.D. 205 (9.1.10.0.0). In the central Usumacinta, at Yaxchilán and Piedras Negras, the stela cult with dated inscriptions began about two generations later, c. 255 (9.4.0.0.0), and in the western cities, as at Palenque, the inscriptions record dates beginning about 370 (9.10.10.0.0). The sequence suggests a westward and river-channelled expansion of Petén Maya culture, although the profound stylistic differences among Copán, Piedras Negras, and Palenque reflect ecological and ethnic differences in the reception of Petén influences, as well as rapid historical development of the basic forms of Maya art and architecture.

These environmental differences are quickly enumerated. Copán and Quiriguá, which are peripheral to a Central American region extending south and east as far as the Lempa river, probably transmitted the Classic Maya style to many provinces in Honduras, functioning as a metropolitan relay-area between the Petén and eastern Central America. On the other side of Yucatán the lower Usumacinta Valley, with Palenque as its metropolis, served the same function for the lowlands of the Gulf Coast. Between them, the cities of the middle Usumacinta, such as Piedras Negras, were metropolitan relay points for the Guatemalan foothills and highland ranges. The navigable upper confluents of the Usumacinta – the Pasión, the Chixoy, and the Lacantún rivers – all converge upstream of Yaxchilán, and most probably bore light water traffic in antiquity, as they do today.

Copán is the most southerly major Classic Maya site (Figure 35). A primary platform, rightly called the acropolis, covers twelve acres and supports many secondary platforms, which in turn bear other platforms, pyramids, and courts, all faced with block masonry, and merging in a continuous spatial design of many courts on the level flood-plain of the Copán river.<sup>30</sup> The river gave the setting for this artificial hill, more than 100 feet high, and the river has destroyed a great part of it, washing away the grand stairway which once formed its west bank.

At Copán, large deposits of tufa, i.e. volcanic ash, yield a building stone of greenish colour. Limestone and andesite are also available. The technique of construction varies according to period. In pre-Classic and Early Classic times, the people used river boulders laid in mud and faced with burnt-lime stucco. Later on, during the mid-Classic period, blocks of the easily shaped tufa, laid in mud, reflect the introduction of quarrying and cutting techniques, perhaps because shaped stone was less costly than the preparation of lime-cement and stucco. In both periods, stucco concealed the imperfections of bonding, which was never a strong point in Maya architecture at any period.

Copán is an assembly of open volumes rather than a collection of buildings. Its plazas are large concourses, studded with sculpture standing on many levels and terraces, but the buildings are few, and built near the end of the Classic occupation, about the sixth century. The nucleus is an artificial hill, raised not only to mark a high place, but also to mark a plaza at its foot. At Copán this acropolis rises above a lower northern platform. Both define the main court, bounded on the south by the acropolis stairway, 90 m. (300 feet) wide. Both provide a theatrical setting for the ball-court (Plate 66A),

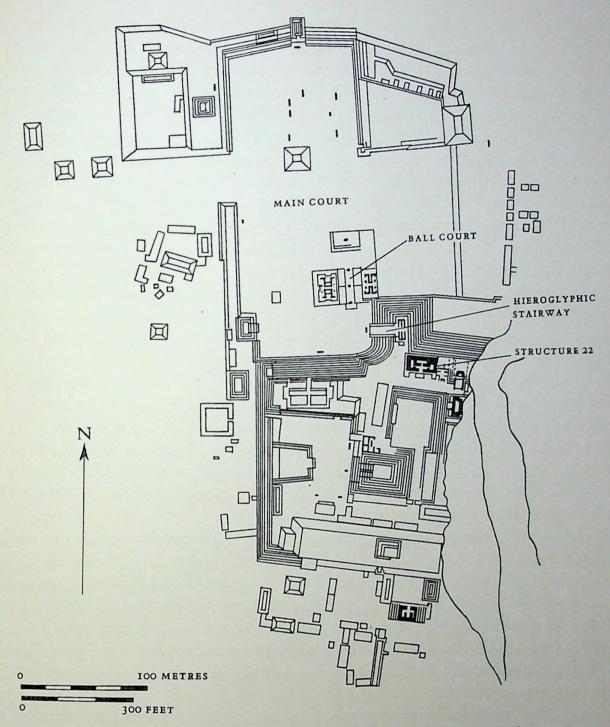


Figure 35. Copán. Plan c. 600. The southern half represents the acropolis

surrounded by stepped terraces, and for the collection of stelae and altars, commemorating the passage of the five-, ten-, and twenty-year units of the Maya calendar. The towering roof-combs of Tikal are absent. The door-frames received that ornament which in the Petén adorned the roofs. Structure 22, for example, has the inner doorway framed by serpent coils and interlaced human figures. The grand stairways, like the Hieroglyphic Stairway, were heavily charged with relief and full-round sculpture.<sup>31</sup>

At near-by Quiriguá (Figure 36), on the north bank of the Motagua river, the building material is sandstone of a close and even texture. It was extracted from ledges in the

surrounding hills, whose sedimentary stone splits readily into prisms, shafts, and blocks.<sup>32</sup> As at Copán, the masonry was bonded with mud rather than lime-cement. Sunken, stair-bordered plazas facing north and east are the principal architectural elements. The chambered buildings framing the sides and corners are incidental enrichments of the south court. As in the Petén, heavy piers like portions of wall separate the doorways of the many-chambered buildings. Structure 1, built about 550 (9.19.0.0.0), is the last of the dated Quiriguá monuments, and it may have been a dwelling of three small apartments raised on an inner platform above door-sill level. The south-east corner of the plaza is marked by two small houses (Structures 2 and 3), containing hearths for making steam on hot river boulders.<sup>33</sup> These steam-bath buildings are less highly specialized than those of the Usumacinta cities, and they indicate once more the conservative nature of the south-eastern style.

The corner edifice is older than the bath-houses on the east terrace, but both show the same structural timidity, in massive walls surrounding diminutive chambers. Structures 4 and 5 both have a central core of solid masonry surrounded by a corridor of tiny chambers between it and the massive exterior walls. The only detail showing any degree of structural boldness is the interior stairway of Structure 4, which rose to the roof. This arrangement is characteristic of the Maya preference for regular exterior envelopes, unbroken by any asymmetrically placed functional shape like an exterior stair.

The antithesis of the conservative Petén style of massive effects is seen at Palenque (Figure 37) in the lower Usumacinta basin, where dwellings with double-range galleries, colonnaded façades, storeyed towers, and burial pyramids extended and diversified the range of Maya architectural achievements.

Palenque lies in the first range of limestone hills rising from the Tabasco lowlands, about 30 miles south of the Usumacinta river.<sup>34</sup> A small stream, the Otolum, runs between the principal monuments in a corbel-vaulted underground aqueduct northward through the ruins. Both sides of the covered stream are terraced with esplanades and platforms topped by chambered buildings with latticed roof-combs. The terraces are of soft local limestone laid rough in mud, with cut-stone surfaces, and lime-stucco finish. Wooden lintels were used in every edifice, but they disintegrated long ago in the humid tropical climate.

Recent excavations and reconnaissance on the site show three principal periods. The first is Early Classic, lacking both inscriptions and important vaulted buildings. The second is Middle Classic, and it includes all the principal groups. The third is Late Classic, when the site was defended by terraced lines of fortification, probably during an occupation by Mexican intruders from the region of the central Gulf Coast, who left among the ruins fragments of ball-game yokes and carvings of flattened heads. At this time the buildings were remodelled as if for a siege or blockade, and many doorways were walled up.<sup>35</sup>

The plans of the various buildings at Palenque cannot yet be placed in a secure chronological sequence. All, however, use the principle of double-range parallel chambers, in order that the two outer vault masses may abut a central Y-shaped vault-mass common to both chambers. Upon this central support rises the latticed roof-comb; its stability

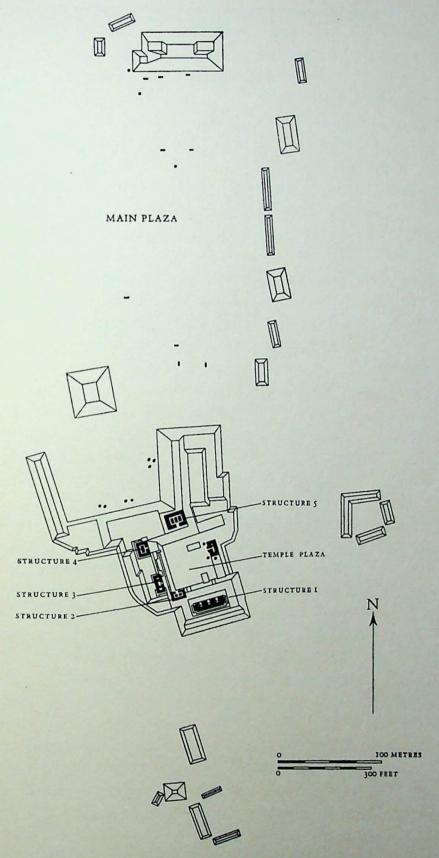


Figure 36. Quiriguá. General plan and perspective view in the seventh century

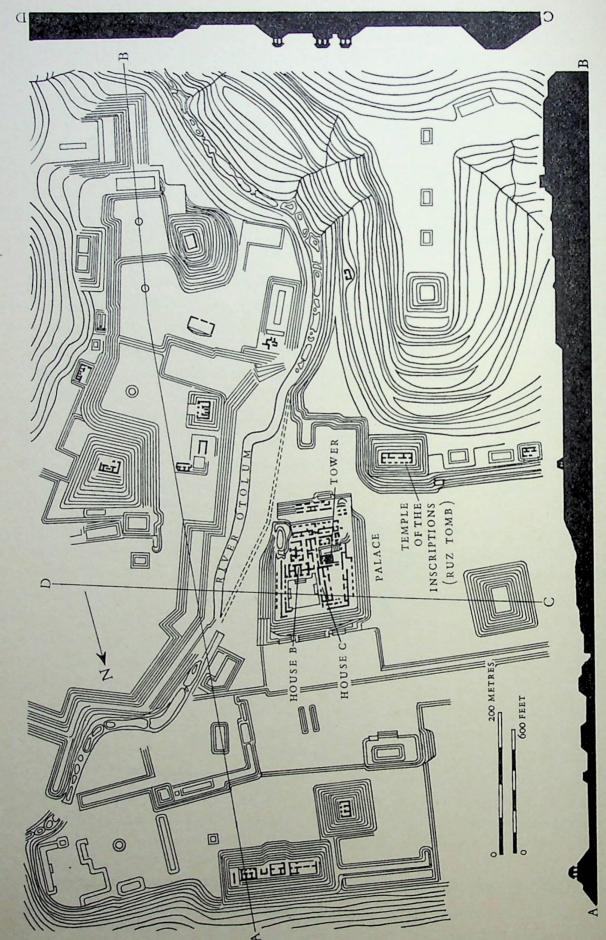


Figure 37. Palenque. General plan in the seventh century

also permits a pronounced mansard slope in the upper façades, as well as the attenuation of the piers between façade doorways. The net result of the systematic use of parallel vaults keyed to a central supporting wall is an architecture of unprecedented lightness and permeability, allowing the construction of wide spans in long chambers of continuous spatial effects. The small temples on top of their pyramids, like the galleries in the northern portion of the Palace, all exploit this extremely stable and economical system, rather than the ponderous massing of the Petén style (Figure 30A). The principal change is in the centre support: the Petén builders treated it as a static core of great mass; the Palenque architects convert it into a membrane, perforated by doors and transoms, yet capable of serving as a core, stabilized by the weight of the roof-comb (Figure 30C).

One can perhaps define early and late versions of the scheme at Palenque. The temple plans, for instance, can be arranged in a sequence from simple two-chamber shrines to elaborate combinations with inner vaulted chambers inside the shrine (Plate 63B).<sup>36</sup> The Palace, which is the most complex edifice of mid-Classic date in the entire Maya world, also contains Early and Late structures.<sup>37</sup> The southern half of its rectangular platform has various levels of close-ranked structures which approach a galleried form without completely achieving it. House B, for instance, entered from both south and north courts, contains five chambers. The walls are thicker than elsewhere at Palenque, and one is re-

minded of a temple structure surrounded by later dwellings.

The northern half of the Palace platform, dated about 461 (9.14.10.0.0), is much more open and spacious, with two courts defined by parallel ranges of chambers, carried around approximate right angles, in a bold solution which has no precedent in the Petén or at Copán. It is in effect a closed-corner quadrangle, particularly at the north-east corner, and is probably the earliest extant example of the type in Maya architecture. The crowded southern half may have housed the servants and a palace guard; the spacious northern courts and galleries were probably dwellings for persons of high rank. Near the tower, towards a small inner court, two lavatories, arranged over a subterranean stream, and a steambath give some idea of the degree of civilization maintained by the Maya nobles.<sup>38</sup>

The tower, on an almost square plan, rises four storeys above the palace (Figure 38). It reverts to the massive central core of Petén design, in order to accommodate the two straight flights of stairs connecting three corbel-vaulted storeys. Between the vaulted storeys the customary attic is kept, although the interior construction does not need it. This inaccessible attic forms a chambered passage between the floors, presumably to lighten the masonry while reassuring the Maya eye that the customary proportions between bearing wall and vault-zone are respected. The

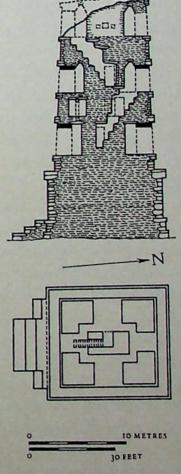


Figure 38. Palenque, Palace tower, sixth century. Section and plan

incoherence of inner and outer forms is characteristic of the general Maya concern for exterior symmetry and regularity, at the expense of interior commodity.

Another remarkable edifice at Palenque is the Temple of the Inscriptions (Plate 63B). Its pyramidal platform contains a large vaulted crypt at ground-level, entered by a stair shaft of about sixty-five steps on two ramps, covered by ten levels of corbelled vaults in stepped ascent. The Maya architects apparently never attempted to build corbel-vaults with slanting imposts and capstones. Their idea of stability required level vault-masses.

The crypt and stairs of the Temple of Inscriptions also have stone tie-rods spanning the upper vaults instead of the customary wooden members, as if displaying the architect's mistrust of perishable wood, and his conviction that the tie-rods were indispensable under these conditions of exceptional stress. In the crypt, a monolithic sarcophagus rests upon six piers, and its carved walls are covered by buttress-like masses of masonry nearly filling the lower level of the crypt chamber. These buttresses were probably built in order to move the slab lid of the sarcophagus into place on rollers. They were never removed,<sup>39</sup> and the entire stair shaft was filled with rubble to close access to the crypt.

Comalcalco,<sup>40</sup> in the state of Tabasco, is closely related to Palenque in its architectural style, and it is situated near the westernmost limit of Maya culture, only about 90 miles from the Olmec site of La Venta, where contact with non-Maya Gulf Coast peoples was maintained. The ruins of a large palace and of a tomb with stucco reliefs like those of Palenque have long been known. The corbel-vaulted structures are built of good fired bricks, measuring 19 by 25 by 24 cm. ( $7\frac{1}{2}$  by 10 by  $1\frac{1}{2}$  inches), laid in lime-mortar made of burned oyster shells and thickly stuccoed.<sup>41</sup>

Half-way between Palenque and Copán are the middle river cities, Piedras Negras in Guatemala and Yaxchilán in Mexico. They stand on opposite banks of the Usumacinta, only 45 km. (28 miles) apart as the crow flies. Yet Yaxchilán belongs to a conservative Petén tradition, while the Piedras Negras buildings are open, light, and airy, like those of Palenque. The site of Yaxchilán (Figure 39) is a long, curved river bank on a nearly circular loop. Along it the city extends upon an esplanade rimmed by platforms and building groups. The site has been much damaged by floods, and the ruins of washedaway structures are visible at the river's edge. Rising from the esplanade are narrow hill-sides separated by shallow ravines.<sup>42</sup> The western hill descends to a bench-like hollow completely covered with platforms, terraces, and buildings. The eastern hillside descends more gradually to the river, and its flanks are terraced in a long curving sequence of platforms, stairs, and building groups which all command views of the river.

Yaxchilán can be compared to the Petén plans of island sites, with groups of buildings standing upon ridges and knolls. Close resemblances to the Petén style appear in several platforms with inset and re-entrant corners (Burial Pyramids Nos 35 and 36) as at Tikal, and in the single-vault plans with thick bounding walls, like Structures 20 and 42. Other edifices recall the galleried parallel vaults of Palenque and Piedras Negras, although their doorways are separated by wall-sections rather than piers. Examples of this type are Structures 30 or 23, with the roof-combs resting upon the median wall, as at Palenque. Structure 23 contains lintels dated 466 (9.14.15.0.0), some years earlier than other edifices of a structural type peculiar to Yaxchilán.

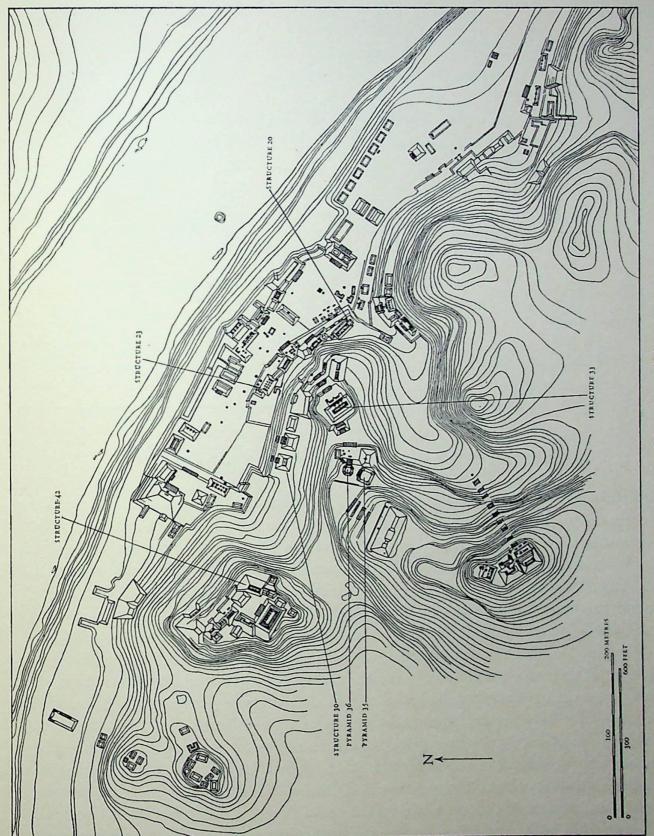


Figure 39. Yaxchilán. General plan c. 600

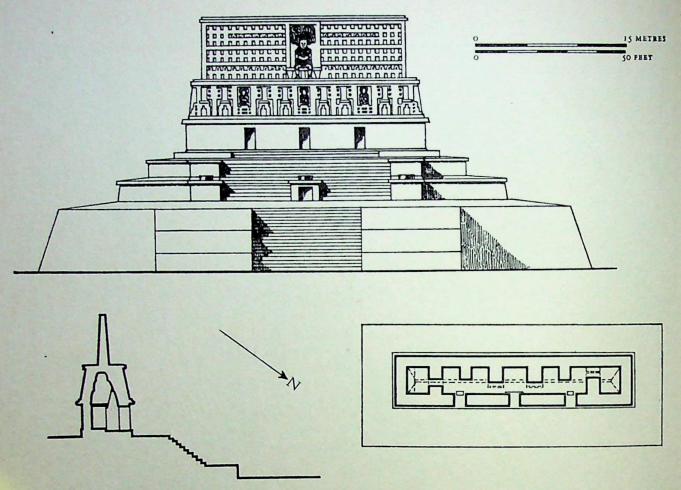


Figure 40. Yaxchilán, Structure 33, c. 500. Elevation, section, and plan

Structure 20 has lintels dated 471 (9.15.0.0.0), so that the type flourished at the same time as the parallel-chamber system just described. The Yaxchilán type is but one vault wide, with the roof-comb resting upon the capstone. The length of the vault is divided into chambers by masonry partitions and interior doorways with corbel-vaulted arches. The façades open by an odd number of doorways between wall segments. The latticed roof-comb upon the capstone actually loads the weakest point of the vault (Figure 40), and its weight would buckle the supports if they were not reinforced by the partitions, which function like interior buttresses. Why the architects should thus have risked the collapse of their work is difficult to establish. That they knew better is shown by the concurrent use of parallel vaults keyed to a median support (Figure 30c). The artistic problem may have required the co-ordination of a single-vault plan beneath a roofcomb of symmetrical properties in both front and side elevations. Interior buttressing appears only at Yaxchilán, as a local trait. Roof-combs charging the capstones reappear on the north-east coast at a very late period. Probably their combination at Yaxchilán obeys local ritual needs, all the while making possible an exterior envelope of complete symmetry on both axes. The extension of an exterior design with parallel vaults to single-vault structures may have been the guiding aim.

Piedras Negras <sup>43</sup> in Guatemala occupies a sloping plateau descending from an altitude of about 200 feet at the western acropolis, to 100 feet above the river level in the southern groups. The buildings do not address the river view: in fact they turn away from the

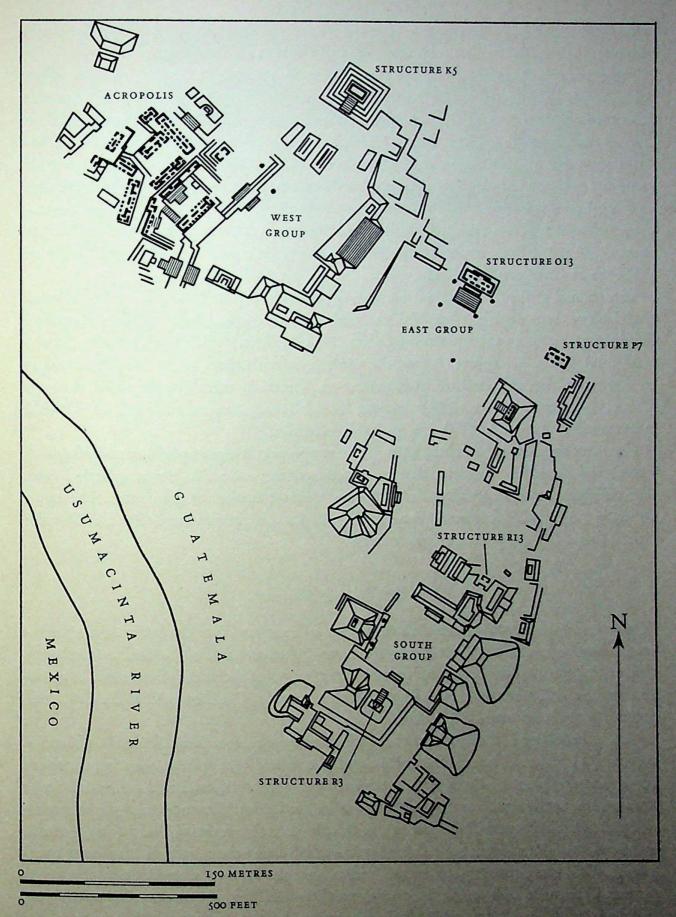


Figure 41. Piedras Negras. General plan c. 600

water (Figure 41), and the various groups cluster around the hollows or along the slopes of several little valleys, rather than upon the hill crests as at Yaxchilán.

Three principal building types are notable. As at Yaxchilán, certain edifices reflect Petén custom in the retention of massive plans, enclosing diminutive chambers beneath great roof-combs, upon platforms with chamfered apron mouldings and rounded inset corners. Structures K 5, O 13, and R 3 are of this type.<sup>44</sup> R 3, dated by associated inscriptions c. 294 (9.6.0.0.0), is one of the oldest vaulted edifices on the site, and its plan reappears in K 5, a temple pyramid completed before 420 (9.12.5.0.0). All the buildings of this group differ from Petén prototypes only in the lower heights of the platforms, the gentler pitch of the aproned profiles, and the triple doorways separated by square piers. At K 5, the large stucco masks flanking the stairs recall the pre-Classic form of E VII sub at Uaxactún (Plate 65).

The second group, represented by the double-range parallel vaults and galleried chambers of the acropolis (Plate 66B), resembles the Palenque palace in the colonnaded façade of many doorways separated by piers, as well as in the grouping by ample closed residential courts. At Piedras Negras, the vaulted galleries seem to be amplifications of an early unvaulted architecture with mortar-and-beam or thatch roofs. If so, the type of the Usumacinta palace reflects ancient local house-mound dwellings, of which a colonnaded form such as O 13 is a probable example.

The most specialized of all buildings at Piedras Negras is a group of steam-baths with chambered plans.<sup>45</sup> The most elaborate, P 7, resembles a double-range galleried unit. The building encloses a small vaulted fire- and sweat-chamber at the centre. The outer rooms were probably for dressing and resting. Eight were excavated at Piedras Negras: one of them, R 13, adjoins the ball-court.

# The Dry Forest: Río Bec

Southern Campeche 46 is an uninhabited region of many ruins at the heart of the peninsula. It has less rainfall than its neighbours; there are no rivers; and it once had extensive shallow lagoons, which today are forested swamps with silted clay bottoms. It is surrounded on east, west, and south by rain-forest country. On the north is the dry scrub forest of populous northern Yucatán.

The archaeology of the southern portion is an extension or subdivision of Petén architecture. At Calakmul, Naachtún, or Balakbal, the 'island' groupings, the steep mansard roofs, and the plans of Petén style are associated with an abundance of Initial-Series inscriptions, marking the same time range as in the Petén. The most complicated plan at Calakmul is Structure III (Figure 42), with at least twelve rooms interlocking to make a central roof-comb unit flanked by symmetrical avant-corps, which also bear roof-combs. This three-towered courtyard scheme has no known precedent in the Petén proper. One must look to the region surrounding Río Bec, about 60 miles north-east, and as far afield as Becán and Xpuhil, for similar designs. Structure III, however, has none of the ornate decoration that characterizes the Río Bec style, and its mansarded profiles recall the Petén silhouette. The dated inscriptions of Calakmul allow us to

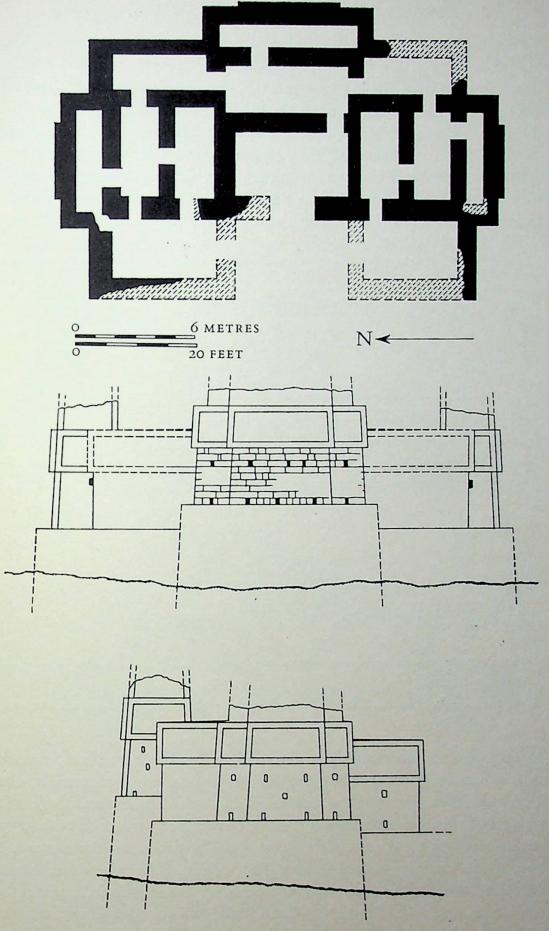


Figure 42. Calakmul, Structure III, seventh century (?). Plan and elevation

ascribe Structure III to mid-Classic times, perhaps as the archetype or, at least, as an early example of the towered *avant-corps* designs of the Río Bec style.

Río Bec, Xpuhil (Figure 44), El Hormiguero, Becán (Figure 43), and others within a region about 60 miles in diameter are the principal examples of this new type, in which the temple pyramid coalesces with a chambered palace structure at or near ground level. The date of the style is still unsettled, for no legible inscriptions accompany the buildings. At Becán a moat more than a mile in perimeter surrounds the city. Within this unique cincture are several edifices of Río Bec type. At the southern end of the moated enclosure are Structures I and II, forming two sides of a raised quadrangle. Structure II

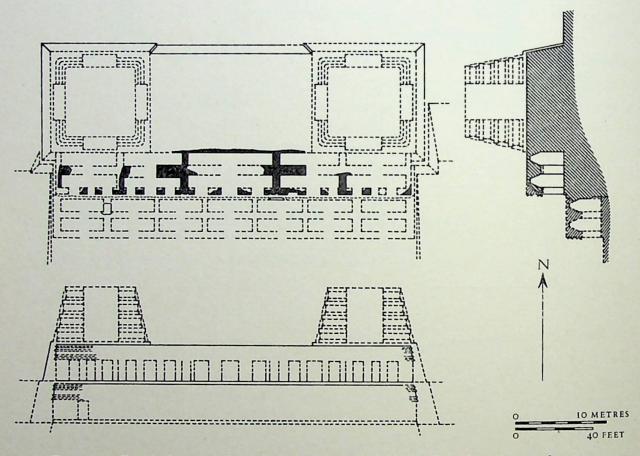


Figure 43. Becán, Structure I, seventh-eighth centuries (?). Plan, elevation, and section

is a pyramidal platform surrounded on all four sides by chambered buildings, and approached by a western stairway. The south side of this primary platform is bordered by another curious edifice, Structure I, which also faces away from its quadrangle with two double ranges of chambers opening south upon lower levels than the twin pyramidal platforms overlooking the upper court (Figure 43). The mansards of the upper double range open to the south by pierced façades. The widths of the doorways, diminishing from the centre towards the ends, recall the gracefully proportioned apertures of the palace façades at Palenque. Above this façade, the two four-stage pyramids display typical Río Bec vertical profiles, with wide band mouldings at the top and bottom of each component. In Structure I, the pyramids and the chambered buildings have equal importance: neither is clearly subordinate. But Structure II alters the order: the

#### THE MAYA TRADITION: ARCHITECTURE

pyramids are ornamental imitations of the steep Tikal prototype, and they are built on a diminutive scale as ornaments of the west façade.

At El Hormiguero and at Río Bec, such 'harmonic façades', reminiscent of Christian church fronts with towers, reappear with minor variations. At Xpuhil, finally, Structure I repeats (or prefigures) the type of three-towered composition (Figure 44) already described at Calakmul. Instead of the roof-combs of Calakmul, three fully profiled small-scale pyramids of Tikal type adorn the chambered cluster of twelve interbuttressing vaults. In the south tower a vaulted stairway leads to the roof of the chambered block, but there is no access to the diminutive temples on top of the three tiny pyramidal towers. Each tower, to be sure, has front and rear stairs, with normal risers 25 cm. (10 inches) high, but the treads are ledges too narrow to use.

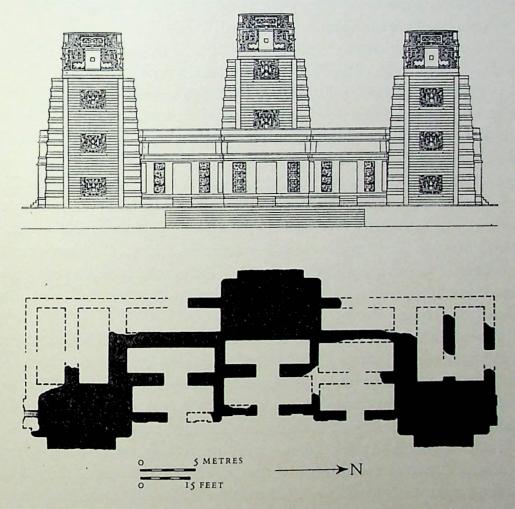


Figure 44. Xpuhil, Structure I, seventh century. Elevation and plan

The date of the Río Bec style can only be guessed. Its intermediate stylistic and geographic position between Petén and Puuc suggests a Late Classic date, in the closing two or three centuries of the first millennium A.D.

# The Well Country: Los Chenes

In Maya place names the suffix -chen signifies location at or near a natural well. Many such places lie south of the foothills called the Puuc, and directly north of the Río Bec district.<sup>47</sup> Indeed the Chenes country may be termed a northern province of the Río Bec style of architecture. Major stylistic differences separate the Río Bec-Chenes group from the Calakmul-Petén group to the south. The boundary between them lies at about 18 degrees 15 minutes of north latitude. Morley regarded the Río Bec monuments as being in Chenes territory,<sup>48</sup> more for architectural than for geographical reasons. His principal argument was that Río Bec and Chenes buildings are both faced with cut stone, unlike the stucco finish of the Petén monuments. The Río Bec sites, however, are usually more elaborate and much larger than the Chenes settlements, so that it is useful to retain a distinction between them.

In the Chenes territory proper, Hochob is perhaps the largest site, set upon a modest rise with three courts surrounded by small buildings and platforms. The principal edifice lacks the Río Bec towers (Plate 67A). Instead, a central vaulted chamber, symmetrically flanked by two lesser chambers on lower levels, as at Culucbalom in the Río Bec province, 49 dominates the little court. The flanking chambers are treated as avant-corps. All three façades bear an intricate decoration of cut stone, representing stylized serpent-masks, framing the doorways. Other examples of these mask-façades are at Dzibilnocac and El Tabasqueño in Chenes country, as well as at Uxmal in the Puuc (House of the Magician) and Old Chichén (the Iglesia) in northern Yucatán. 50 Antecedents (or parallels) in the Petén are the stucco façades of Structure 22 at Uaxactún and Building A at Holmul in Group II (Figure 51). 51 Since the most elaborate expression—the serpent-framed doorway—is in the Chenes, it is usually taken as the characteristic trait of the Chenes style.

Other features of Chenes practice also command attention. At Hochob, the stones on the vault soffits are carefully shaped, with deep tenons and rectangular faces. The outer wall surfaces are faced with blocks of limestone. The façade of the central chamber of the main building continues upward in a false front, decorated with rows and columns of human figures. In other Chenes buildings, an aproned moulding marks the level of the impost of the vault. All these traits so closely resemble the architectural practice of the Puuc district that any great chronological separation between the Chenes and Puuc styles seems unwarranted. The Río Bec, Chenes, and Puuc styles are probably roughly contemporary, belonging all three to a Late Classic period, after the close of the Initial-Series inscriptions, and prior to the Toltec intrusion. This period used to be called the Maya 'Renaissance', but the ceramic and stylistic evidence accumulated in the past three decades invalidates the idea of separate civilizations, which the use of the term Renaissance was intended to convey. Succession is present, from mid to Late Classic periods, and also displacement, from the lake and river cities to Yucatán, but at no point can a long era of degeneration separating 'Classic' from 'Renaissance' be established.

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# The Hill Country: the Puuc

Low hills called the Puuc, not more than 350 feet high, interrupt the flat country north of Champotón. A thick accumulation of ruins occurs in this part of the peninsula. The ancient settlements all flourished near underground cisterns, typical of the Puuc, each holding enough water for the needs of the near-by farmers <sup>53</sup> during the six-month dry season in each year. These cisterns, called *chultunes*, were bottle-shaped tanks, carved into the limestone plain or built in the stone fill of the plazas. They were plastered inside to collect the rain-water that ran off. The occupancy of the Puuc sites, north-eastward from Champotón to Maxcanú, and south-east from Maxcanú almost to Lake Chichankanab, depended upon the construction and maintenance of the cisterns. The dated sculpture and the remains of pottery indicate settlement in Middle Classic times, and prosperity until the rise to power of the Toltec invaders, about 1000 A.D., at the end of the Late Classic era.

The Puuc architects of the Late Classic era transformed all previous Maya practice.<sup>54</sup> Earlier Maya buildings, whether in Yucatán or in the Petén and Usumacinta regions, were built of slabs and blocks, faced with stucco. The Puuc builders invented rubble cores, faced by a veneer of thin squares of cut stone. The heavy piers of the southern façades were replaced with round and square columns (Plate 67B), to vary the rhythm of the openings and to improve the lighting inside the heavy walls. The stucco exteriors of the southern provinces were abandoned for geometric designs of carved stone, assembled like mosaics in the upper zones of the façade. The mansarded profiles were replaced by more stable vertical façades (Figure 49). In the vault soffits, specialized facing-stones appeared, allowing greater spans in the rooms, and more finished surfaces.

These innovations all reflect major changes in Maya life. The builders no longer planned great courtyards rimmed with temples and studded with calendrical records carved in stone. Habitations rather than temples were the aim. A few stelae were set up, but the main effort was invested more and more in the new style, with its geometric decoration keyed to the vertical upper zone of the façade and to the single roof-combs on the vertical walls, which are called 'flying façades' (Figure 30E), to distinguish them from the double-wall constructions of the south. The proportions, the mouldings, and the system of decoration all diverge from Petén and Usumacinta practice.

It is not unreasonable to postulate three centuries for the duration of this architectural style. The orthodox view <sup>55</sup> that the Puuc stelae are all of the mid-Classic period <sup>56</sup> also fixes the date of the architectural and ceramic remains. There is no doubt that the stelae are of mid-Classic date, but there is also no proof that they are coeval with Puuc architecture and pottery. The orthodox correlation of Classic Maya and Christian calendars (i.e. Initial-Series, 10.3.0.0.0, equated with 889) necessitated tying the Puuc buildings to the stelae of Cycle 9, because of firm textual evidence for the beginning of the Toltec domination so soon after the close of the Initial-Series inscriptions, in the tenth century. The radiocarbon dates, <sup>57</sup> however, also allow a correlation equating 10.3.0.0.0 with the opening decades of the seventh century, and they allow a reasonable duration for the architectural and ceramic forms of the Puuc style, without driving their date far back

into Cycle 9. Our chronology, by the simple device of calling the last 300 years of Initial-Series inscriptions 'mid-Classic', and by retaining from orthodox chronology a Puuc period equivalent to 'Late Classic', recognizes both the stylistic autonomy of Puuc architecture and its post-Initial-Series and pre-Toltec position. It also meets the requirement of contemporaneity between Puuc and Mexican events such as Mitla, Xochicalco, and Tajín Chico, where spatial and decorative analogies to the Puuc cannot be disregarded.

The architectural remains define two distinct provinces in north-western Yucatán, coinciding approximately with the eastern and western branches of the inverted V of the Puuc country. In general, the western sites <sup>58</sup> are small and residential, plain, and much older than the large, ornate, and ceremonial eastern sites. The differences between them are best seen by comparing Edzná with Kabah, or Holactún with Uxmal. Edzná, covering about 250 acres with scattered groups of buildings, is perhaps two millennia old. It has clearly defined pre-Classic levels of occupancy, as well as Classic and post-Classic remains. <sup>59</sup> Kabah, though twice as large, was occupied and entirely built during a 250-year period in Late Classic times, estimated by ceramic evidence. <sup>60</sup> Holactún, also called Xcalumkin, has a court surrounded by four small buildings. The group, though small, is a large one for the western district, in contrast to the extended clusters of important buildings at Uxmal (Figure 46), Labná, Zayil (Plate 67B), or Chacmultún.

In the west, block masonry carved in large units of decoration is not uncommon. In the east, veneered rubble cores and mosaic decorations of small units easily re-used in new combinations are the rule. These differences probably correspond to early and late phases of Late Classic architectural history. Of course, late traits of construction and ornament are common in many western buildings, but the early traits, which resemble Río Bec and Chenes forms, do not appear in the western Puuc. For example, columns or piers with atadura capitals, or binder-mouldings, resembling a girdle of tightly belted thatch flaring out both above and below the belt, are common from the Río Bec district westward,<sup>61</sup> but in the eastern Puuc they occur only in the oldest portions of the Nunnery at Uxmal (Figure 47). Cylindrical columns, on the other hand, appear in both eastern and western Puuc buildings, though more commonly in the east,<sup>62</sup> so that the form may be taken as late, occurring in remodellings and late constructions in the western group. At Edzná (Figure 45), the plain band mouldings and the single slant-faced mouldings are close to those of Río Bec or Xpuhil (Figure 44). There is nothing like them in the eastern groups.

The Puuc style of architecture is therefore best apprehended in the eastern sites from Chacmultún to Uxmal, as a Late Classic transformation of Maya practice which occurred in the two or three centuries before 1000. Certain forms characterize its early and its late manifestations: the storeyed or chambered pyramid (Plate 67B); the monumental archway; the vertical façade; the monolithic core veneered with thin stone plates; the use of atadura (binder) mouldings; and the apertures framed by columns.

The chambered pyramids of the Puuc are the antithesis of the Río Bec-Chenes buildings (Figure 44), where low, one-storeyed, chambered buildings were bracketed by dwarf pyramids. In the Puuc, from Edzná to Chichén Itza, the architects, by building

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set-back ranges of chambers upon each pyramidal stage, achieved a storeyed effect. The oldest of these chambered pyramids may be the one at Edzná (Figure 45). It is square, 60 m. (200 feet) long on each side, and rising 30 m. (100 feet) to the top of the flying façade. Its five stages bear files of chambers in set-back levels on the north, south, and

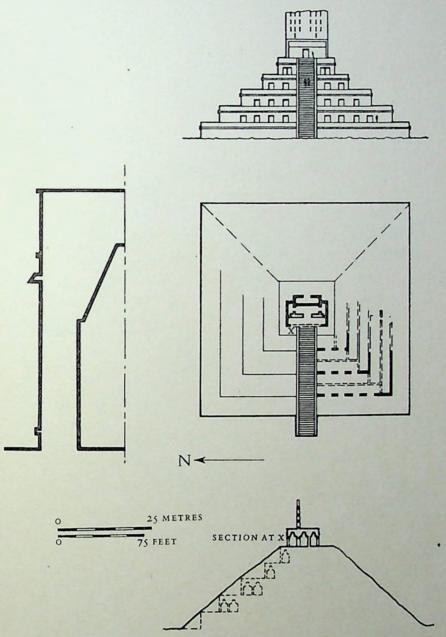


Figure 45. Edzná, main pyramid, seventh-eighth centuries. Elevation, plan, and sections

west faces. The chambers on the second and third stages are double ranges; 63 on the fourth and fifth they are single. Early and late features combine everywhere. There are no binder mouldings, but columnar supports appear in the fifth-storey chamber façades. The entire edifice overlies an older, smaller pyramid of Petén type with re-entrant, inset corners. Two modes of construction coexist: slab masonry in some chambers, and veneered rubble with special vault stones in others.

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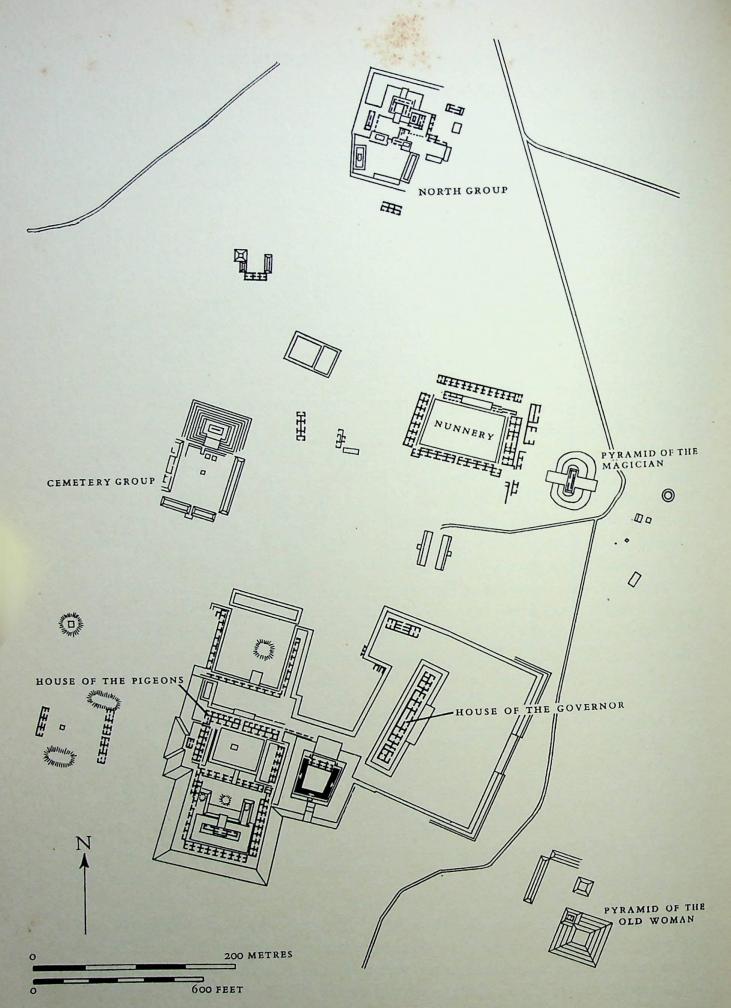


Figure 46. Uxmal. General plan c. 1000

## THE MAYA TRADITION: ARCHITECTURE

On other Puuc sites, the pyramidal core shrinks to a terraced support for the files of rooms, as at Chacmultún, where core and stair ramp in the main edifice form a T-shaped nucleus, or in the Zayil palace (Plate 67B), with three terraces of chambers surrounding a solid core approximately 100 by 230 feet in ground plan.<sup>64</sup>

Other traits of the Puuc style are best discussed in connexion with Uxmal, the most

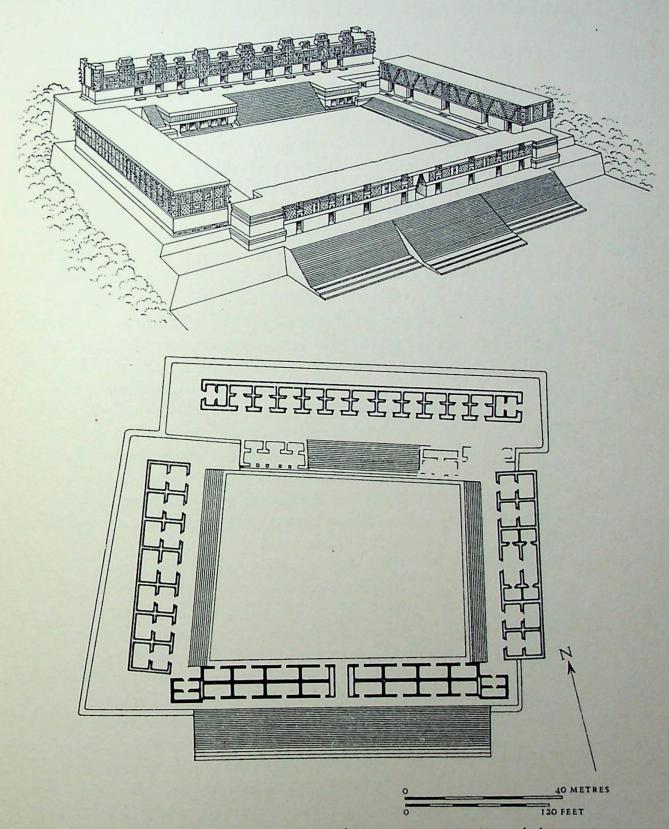


Figure 47. Uxmal, Nunnery, tenth century. Isometric view and plan

beautiful of all Maya cities. Uxmal is also the least typical, having, like most master-pieces, transcendent properties and qualities. For example at Uxmal cylindrical columns are rare, although they characterize the Puuc style in both western and eastern variants. Another peculiarity of Uxmal architecture is the open-corner quadrangle, composed of free-standing blocks (Figure 46). It is an exceptional form in Puuc design. This trait, like the mosaic decoration in the upper façades, recalls the architecture of Mitla in southern Mexico (Figure 23). A further parallel between Uxmal and Mitla is the outward lean (negative batter) of the façade walls. Other affinities between the Puuc and Oaxaca will appear below.

Uxmal occupies about 250 acres. The oldest edifice is perhaps the southernmost pyramid, 65 a square, four-stage mass not unlike the main pyramid at Edzná, and called the Pyramid of the Old Woman. At the other end of Uxmal stands the North Group, which is a chambered pyramid with a lower court and edifices on several levels. Between the North Group and the Old Woman are four principal edifices: the Pigeon Group, so named on account of its latticed and gabled façade resembling a dovecote (Plate 68): the House of the Governor (Figure 49); the Cemetery; and the Nunnery (Figure 47). North, Cemetery, and Pigeon Groups all belong to the same family of

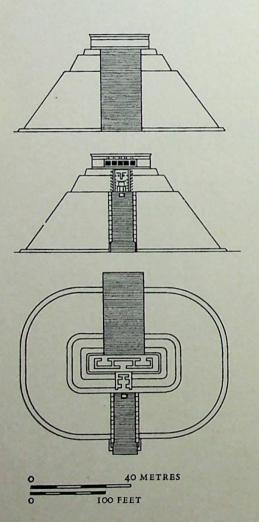


Figure 48. Uxmal, north-east pyramid ('Magician'), seventh and ninth centuries. Elevations and plan

'amphitheatre' courts which we have examined at Monte Alban (Figure 21). Barrier-mounds frame the court on three sides. The fourth side with a stairway pyramid is like a stage. The Pigeon Group is the most complex of all, with three courts of diminishing size. The largest is the low outer court, followed by the middle court at the foot of the south temple, where chambered pyramid and amphitheatre court merge. Seler, noting that the Pigeon Courts are more ruined than the Nunnery and the Governor's Palace, ascribed greater age to the former:66 certainly the Pigeon Courts, both as amphitheatre enclosures and as chambered terraces with flying façades (Plate 68), are typologically older than the freestanding block designs of the Nunnery and Governor's Palace. The differences between the Pigeon Courts and the Nunnery are analogous to the differences between Monte Alban and Mitla, where we have supposed a lapse no longer than the passage between mid-Classic and Late Classic eras, i.e. no more than six, and no less than two centuries.

One may consider the Nunnery (Figure 47) as an improved version of the earlier Pigeon Court. Like the Pigeons, it spreads at the foot of a lateral pyramid, it occupies platforms on several different levels, and it has a chambered terrace effect on the highest

## THE MAYA TRADITION: ARCHITECTURE

platform, as well as a serrated or castellated silhouette in the principal or north building. The functional uses of these groups are unknown: they may have been palace groups, or institutional dwellings, or even mere concourse centres with surrounding chambers for official ceremonies and for storage. The lateral pyramid, called the Magician (Figure 48), is an eclectic aggregate of styles produced during many generations. The serpent-mask doorway on the penultimate stage of the west front (Figure 52) is in the Chenes style – a veneer over a mansarded inner façade of Petén or Usumacinta profiles. The storeyed masks flanking the west stairs recall the tiered masks of Structure K 5 at Piedras Negras. The temple on the summit is like the west building of the Nunnery (Plate 85A). The rounded ends of the pyramidal platform are unique in Maya architecture.

Progressive mastery of the architectural possibilities of free-standing block design appears in the Nunnery buildings. It continues in the masterpiece of the genre, the Governor's Palace. In the Nunnery, the convergence of the lateral pavilions (Figure 47), as in Michelangelo's composition on the Capitol in Rome, may be due to careless or accidental design, but other refinements, such as the outward lean of the façades for visual correction of the long horizontals, 68 suggest a similar deliberate aim of perspective correction in the convergent eastern and western buildings.

The north building in the Nunnery (Plate 83) is probably the oldest, as we may deduce from the older encased structure, <sup>69</sup> from the vestigial roof-combs, and from the narrow vaults upon heavy supporting walls, as well as from the chambered terrace design on two levels. A radiocarbon date from this edifice (see Note 38, p. 162) reads 893 ± 100. If the ratio of wall to span is an index to age, <sup>70</sup> the south building is the next oldest, followed by the east pavilion (Plate 84), then the west building (Plate 85A). The south building has two striking features: the archway entrance on axis with the ball-court, and the variable spacing of the doorways in both façades. Such monumental archways appear at Labná, Kabah, and Oxkintok in the Puuc, as well as much later at Chichén Itza and Mayapán. The variable spacing of the façade doorways has an antecedent in the Palace façades at Palenque: the widest intervals are the central ones, diminishing towards the corners, as in Greek peripteral temples. This refinement is lacking in the north building, but it appears fully developed in the west building, and tentatively in the east building. These advances in rhythmic complication correspond to the sequence suggested by the ratios of wall to span.

The House of the Governor (Plate 85B) is the most refined and perhaps the last achievement of the architects of Uxmal. In it many scattered solutions were brought together to make up an edifice of striking harmony and repose. Its profiles are adapted to the scale of the landscape, and its surfaces are adjusted to the hard light of Yucatán with an ease that reveals both a mature architectural tradition and the presence of an architect of great endowments. He probably had to conform to an eleven-entry plan (Figure 49) previously set out both in the north building of the Nunnery (Figure 47) and in the gabled House of the Pigeons. He broke the monotonous block of the Nunnery into three parts connected by two corbel-vaulted archways, in a solution anticipated by the avant-corps end-apartments in the south Nunnery building. This building also was broken by a corbelled archway. But the architect of the Governor's House boldly made

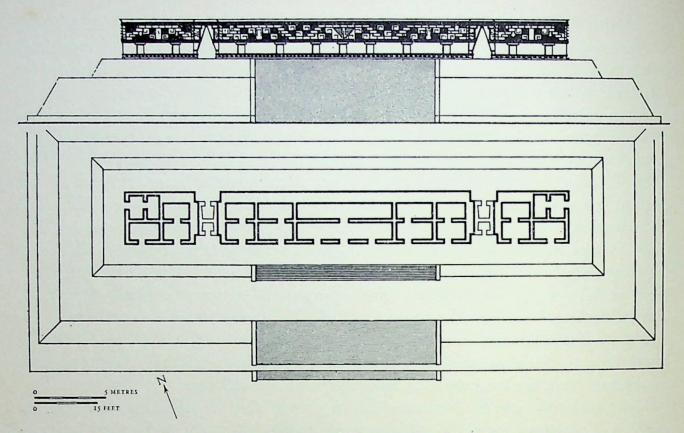


Figure 49. Uxmal, House of the Governor. Elevation c. 900

the best of the arch. In the Nunnery, the arch is like a raw wound in the façade, incompletely thought out either as an entrance or as a break in the block. The architect of the Governor's House, however, recessed the corbel-vaulted arch behind the façade, and exaggerated the vault overhangs, carrying them in convexly curved soffits like curtains down nearly to ground level, in order to accentuate the separation of the three pavilions by shadows and by striking contours.<sup>71</sup>

The proportional groupings (Plate 85B) have overlapping and contrapuntal rhythms that recall the complexities of Maya time-division. The doorways in the three pavilions yield the grouping 2-7-2. The main eastern stairway marks another grouping: 3-5-3. Each corbelled archway is flanked by mosaic decorations in the frieze permitting the rhythm 5-3-5. The frieze, finally, has its own rhythmic order of several planes of geometric ornament.

### CHAPTER 8

# THE MAYA TRADITION: SCULPTURE AND PAINTING

### SCULPTURE

MAYA sculptors of the Classic era were Stone Age professionals moving from one site to another as demand required. Their figural art displays stylistic unity during a thousand-year period. Proskouriakoff has charted its chronological variations. Haberland tabulates the regional migrations of several hundred specific forms in Maya sculpture.<sup>1</sup>

Limestone (Plate 73), sandstone (Plate 71), trachyte (Plate 70), stucco (Plate 78), wood (Plate 69), clay, and jade (Plate 80A) were the customary materials, worked without knowledge of metal tools. The genres were architectural decoration, commemorative reliefs, figurines, pottery, and jewellery. All large monumental sculpture obeyed architectural lines of force in its placing. Low relief carving is predominant, full-round sculpture rare. The governing impression is of an art of linear contour, transferred from painting in order to secure more permanent effects, without investigation of the sculptural possibilities of bodies in space. Between the Leyden Plate of incised jade and an early stela from Tikal, the main differences are in scale and technique. The formula of linear silhouettes in the flat plane is common to both. Six hundred years later, the murals of Bonampak (Plates 86–90) and the figural reliefs of Piedras Negras (Plate 73) show similarities of the same order, although the reliefs have less pictorial scope than the murals, and a more rigid hieratic symbolism. Studied proportions, often with complex harmonic relations, characterize Maya sculpture, in a manner reflecting or echoing the obsession of the Maya mind with astronomical, mathematical, and ritual divisions of time.

A major morphological change in Maya sculpture occurred near the close of the Initial-Series inscriptions in the seventh century, after free-standing stelae (Plate 70) and altars with relief sculpture ceased to be made. Thereafter, from the eighth to the end of the tenth century, during the Puuc period, an architectural sculpture of geometric stylization (Figure 52), which was usually confined to the upper façades of Late Classic buildings, gradually replaced the old tradition of naturalistic and curvilinear relief sculpture. Instead of the priests and warriors and secondary figures of Early and mid-Classic art, geometric assemblies of serpent-mask mosaic forms, with panels of abstract ornament and curtains of stone colonnettes, surround the exteriors of the edifices (Plate 67B). The reasons for this great change are no better understood than those for the twentieth-century 'retreat from likeness'. We may suppose that a cultural crisis and a geographic shift, or a combination of both, were involved with the advent of different conceptions of artistic form. The possibility of an autonomous stylistic renewal is also relevant, as in the European shift from the Romanesque to the Gothic style in the

twelfth century. In order to describe the history of Maya sculpture, it will be convenient to divide the corpus into two main groups: figural compositions, which characterize the art of the Petén and of the river cities (first to seventh centuries); and geometric architectural decorations, which are typical of the cities of the plain in the Río Bec, Chenes, and Puuc regions (seventh to tenth centuries).

# Figural Reliefs

The Classic Maya use of free-standing sculpture was restricted to low relief compositions upon tall slabs and prisms of stone (called stelae by transfer from Greek archaeology) as well as on low altar blocks, drums, and boulders, often associated with the stelae.

The prismatic faces of the stela were often stressed by framed inscriptions and scenes on back and sides (Plate 70). The earliest stelae, like No. 9 at Uaxactún, are long and irregular splinters of stone. Later on, in the Petén and Motagua districts, shafts of nearly square section were usual. Thin slab stelae satisfied a need on the western river sites for many-figured compositions (Plate 76). After A.D. 250 (9.4.0.0.0), in the Usumacinta region, panel designs, more like illustrations than monuments, are common (Plate 73). The placing of the reliefs also varies according to region. In the Petén, as at Tikal, the stelae are aligned like gravestones along the sides of the courts, but they do not stand at the centre. At Copán and Quiriguá (Figure 36), however, the slabs and prisms seem to be placed at random. Lines of sight, perhaps relating to important agricultural dates in the solar year, may be involved, as between Stelae 10 and 12 at Copán. In the west, at Piedras Negras (Figure 41) and Yaxchilán, the stelae are governed by the groups of buildings, in their off-centre alignment on terraced levels.

The chief purpose of the stelae was to represent standing or seated human figures, richly dressed and burdened with serpent symbols. Other functions of the stelae and altars were to commemorate and prophesy in writing the passage of the units of Maya time, by five-, ten-, or twenty-year units. The inscriptions also record computations of the length of the solar year as well as of the motions of the moon.<sup>2</sup>

The personages possibly represent a succession of priest-rulers (Plates 69-71), whose rank is marked by the ornate serpent bar surrounding the figure, or carried in both hands. By this hypothesis, the bar symbolized the sky, and it conferred the status of 'skybearer', or temporal governor, upon its possessor; <sup>3</sup> after the fifth century, its use was less common, and an effigy sceptre replaced the bar, concurrently with the appearance of armed warrior figures in greater numbers than in Early Classic art.

Proskouriakoff named this single human figure (Plate 69) the 'classic motif', and she has traced its variations in two Early Classic phases, and four Classic phases (formative, ornate, dynamic, and decadent). In each period and phase she analyses the regional and local variants, always in order to reconcile the epigraphic and stylistic evidence, which in Morley's great work were often in conflict. Her findings are categorical: pre-Classic and Early Classic versions of the stela figure show a profile outline with frontal shoulders, as in Egyptian dynastic art (Plate 107). The turning of the shoulders into profile view occurred in the Petén during the second century (9.2.0.0.0-9.4.0.0.0, especially at

Tikal). After a lapse of some sixty years, c. 300, when almost no sculpture was produced, the profile stance was abandoned in the principal figures and a new version, with full frontal torso and the feet turned outwards in opposite directions (e.g. Plate 69), made its appearance, beginning about 340 (9.8.0.0.0) in the Petén. This form persisted, with local divergences, until the end of figural relief sculpture in the seventh century. From about 450 (9.14.0.0.0), animated motions enliven its hieratic dignity, but the feet remain splayed out in opposing profile (Plate 76, left).

The scale of the figures in Early Classic reliefs varies, not according to perspective distances or to the actual sizes of persons and things, but according to their rank and importance. Tiny captives or victims cluster by the feet of the gigantic principals. In the fifth and sixth centuries this hierarchic conception of scale weakened and yielded to correct visual scale: thus Lintel 3 at Piedras Negras (Plate 73) has accessory figures on the foreground steps in the same scale as the principal enthroned personage. The Maya striving towards gigantic effect belongs to the same period. Stela 1 at Bonampak, dated c. 520 (9.17.0.0.0), is 5 m. (16 feet) high by 2.6 m. (8½ feet) wide, and it is carved with a single human figure. At Quiriguá, the late prismatic stelae of sandstone have colossal dimensions; the largest is Stela E 7 (of the same date as the slab at Bonampak), 35 feet high, the largest monolith ever erected in Maya territory (Plate 71).

Proskouriakoff has traced many other generic and specific differences between early and later sculptural vocabularies. Early scrolls are of simple bifid or trifid outline; later (here 'mid-Classic') scrolls have tendrils and doubled outlines. Early head-dresses have large animal-mask forms (Plate 107); later head-dresses run to mosaic incrustations upon smaller, more stylized animal masks. Early ear-plugs are large disks; later ones are ornate squares (Plate 71). The progression is never merely from plain to ornate forms; it is from ornate to ornamentally autonomous forms. A loin-cloth apron begins as an elaborate element, and it ends as an arbitrary form which defies imagining as a real part of costume. In other words, the earliest representations are of tropically luxuriant shapes, which progress towards arbitrary symbolic pre-eminence, often at the expense of the human subject of representation. The meaning of this symbolic system is far from sure, but its proliferant serpent-head elements suggest that the figures garbed in them have transcendental meaning; that they are at least god-impersonators wearing shreds of the space of upper and nether worlds, represented by serpent mouths, eyes, and fangs.

At this point we encounter an irreducible variety of local Maya expressions in sculpture. For instance the eastern regions – the Petén and the Motagua – differ from the western river cities by their stress upon cage-like costumes. But Tikal in the Petén, and Copán in the Motagua basin, also differ from one another. Tikal sculptors never investigated the possibilities of relief rounded in depth; their work always adhered to close-set front and rear planes, separated by vertical-wall cuts, and differentiated by linear incision. At its best, as in the wooden ceilings from the inner chambers of the main temples (Plate 69), Tikal sculpture achieved ponderous rhythm in the linear surface, by two-dimensional extension rather than by any reliance upon effects in depth.8

At Copán, the sculptors boldly attempted to free the body from the stone block. Spinden 9 charted this evolution and his observations still hold good, with minor

corrections. At Quiriguá, however, this progression towards free-standing bodies was restrained by the prismatic envelopes. Only the facial planes are cut back into the stone by supple passages of modelling. All other parts of bodies are imprisoned both by ornate costume and by the bounding planes of the prism (Plate 71).

The governing idea of the sculptors of Quiriguá was like that of a diamond-cutter: to conserve the weight and bulk of the stone at the expense of other aims. The great boulders, called zoomorphs, and the flat altar stones near them, display this respect for the natural boundaries of the raw material. Zoomorph O (Plate 72A) and its altar, dated 529 (9.18.5.0.0), are the outstanding examples. The boulder is carved with a variant of the double-headed sky symbol we have seen on the wooden lintel from Tikal, and on the stelae. Here the dragon-heads in profile confront each other as if to present between them the figure of a seated personage bearing an effigy sceptre. The flanks are carved with more serpent-heads, and the rear bears a geometric serpent-mask bordered by long inscriptions. The altars associated with Zoomorphs O and P are likewise irregular boulders carved in relief. One part of the top represents a dancer, bearing masks, and involved in coils and layers of serpentine ornament. On the rear part of each altar an elaborate glyph-band forms a terraced shape recalling the ground plan of a temple in the Petén style. On Altar O, the dancer's foot penetrates the 'doorway' as if to show a performance on the temple platform (Plate 72A).

On the Usumacinta valley sites, the narrative relief technique of Yaxchilán and Bonampak resembles that of Piedras Negras. But at Yaxchilán the portrayals of aggression, of visionary ecstasies, and of penitential rites of blood-letting compose an art of violence both against others and against the self which differs radically from the serene and contained palace art of Piedras Negras and Palenque. By date, Yaxchilán and Bonampak are a terminal expression in Classic Usumacinta sculpture. The earliest dated reliefs of Piedras Negras are assigned to the mid third century A.D.; at Bonampak to the mid fourth; at Palenque to about 400–500; and at Yaxchilán to the years between 400 and 580.10

Some relief sculpture of the western river cities resembles the Petén stelae.<sup>11</sup> But an early divergence is seen about 275. These new narrative and pictorial interests are represented in the Petén style only by small accessory persons crushed beneath the feet of the huge principal figure, or relegated to small panels separated from the main area by bands of inscriptions (as on Stela 1 at Cobá, 9.12.0.0.0, or Stela 1 at Ixkun, 9.18.0.0.0).

The new pictorial manner of the Usumacinta cities is seen in Wall Panel 12 at Piedras Negras (9.5.0.0.0) – which was probably incrusted upon a façade. A standing figure in profile of Early Classic style in one panel receives the kneeling homage of four others in another panel. The entire composition is of 7:3 proportion. Both the intaglio glyph forms and the proportions are novel. The intention is altogether opposite to that expressed in the arbitrary scale and restricted space of the upright stelae of the Petén style. The composition recalls Maya vase-painting, and mural decoration like that of Bonampak: traces of the green and red paint reinforcing these pictorial effects still adhere to much Piedras Negras sculpture. Several other multiple-figure compositions at Piedras Negras show a unified pictorial space. Wall Panel ('Lintel') 3 (9.16.10.0.0, or A.D.

501) portrays a princely figure seated upon a broad dais backed by a serpent-mask panel of perforated stone (Plate 73) like the actual throne discovered in Palace J 6 at Piedras Negras.<sup>13</sup> Seven figures, grouped four and three, flank the dais, and seven seated figures occupy the foreground. Across the room runs a terrace-like step, while a curved line above represents a furled cloth curtain gathered up by cords, as on Stelae II and 14. Several inner frames are marked by the glyph bands and by the various tectonic boundaries of the throne-room. At the intersections of the diagonals defined by these various frames are the chief points of interest, such as the full-round hand and arm of the principal figure. This hand rests upon the edge of the dais. The dais, whose width equals onethird the length of the panel, is itself not centred, as if to counter-balance the uneven groupings of figures. The space of an actual room seems to circulate around and among the figures. The front row is carved in low relief, and the more important figures of the rear plane are nearly detached from the plane of the background. Such a progression from shallow foreground to deeply cut background occurred about twenty years earlier (9.15.10.0.0) in stelae like No. 14 at Piedras Negras, where the distinction between primary and secondary figures was carried, not by scale, but by depth of relief.

This virtuosity in complicated figural compositions reappears in Stela 12 (Plate 74),<sup>14</sup> executed about the same time as Panel 3. A warrior seated with one leg negligently raised upon his throne surveys a crowd of seated captives compressed in the narrow space of the stela, and guarded by standing profile figures. The body outlines carry from one to another in ascending wave-like surges recalling the battle scene at Bonampak (Plate 90). Such bellicose subject matter is common in the Usumacinta region, as at Bonampak

and Yaxchilán, but it disappears at Palenque.

Piedras Negras is the most beautiful of Classic Maya sites, with strongly marked local characteristics, <sup>15</sup> such as the armed warrior figures (Stelae 26, 31, 35, 7, 8, and 9), frontal deities in niches, <sup>16</sup> and a scene representing human sacrifice by heart excision (Stela 11), as in Aztec or Mixtec representations. A scene peculiar to Piedras Negras shows a priest sowing grains of maize: in one version (Stela 40, 9.15.15.0.0, or A.D. 486) the priest kneels in an upper register, and the grains shower upon the ornate bust of an anthropomorphic deity in the lower or subterranean register (Plate 75). <sup>17</sup> This representation affords the closest approach by a Classic Maya sculptor to the representation of natural space: up and down, inside and out, front and rear are shown by arbitrary symbolic conventions rather than by reproducing the visual space of retinal impressions. The sculptor unified the upper and lower halves of his narrative by the linear rhythm of a rope, festooned with leaves and ears of corn. The rope emerges from the mouth of the lower figure, and terminates behind the kneeling priest's head.

Thus the Piedras Negras sculptor, though he possessed a plausible system of pictorial space for terrestrial events, such as scenes of homage and fealty, or throne-room scenes, reverted to abstract conceptual conventions for the representation of vegetation rites. One marvels at the extraordinary range of artistic means at Piedras Negras: proportional harmonies, melodic decoration, visual pictorial space, and symbolic conventions all combine in an art of unparalleled suavity and power, both transcending and divergent from the part from the part of the part from the part of the

gent from the rest of Maya sculpture.

At Yaxchilán, south-west and upstream from Piedras Negras, sculpture underwent a radical change in the closing centuries of Classic Usumacinta style, from about 500 until 700. Yaxchilán reliefs prior to 500 (9.16.10.0.0) are relatively tranquil single- and double-figure compositions. Hieratic scale is the rule, with the principal figures shown very large, and the accessory figures appearing very small. The principals are frontal, with the feet splayed out and only the heads in profile, as in Petén sculpture, while the accessory figures appear in full profile.

The rule that frontal figures are gradually replaced by profile figures in action seems to hold for Yaxchilán. Stelae 6 (c. 450, 9.14.0.0.0 ± 2 Katuns by style) and 13 (c. 490, 9.16.0.0.0 by style) are early examples of standing full-round figures in profile. They are at rigid attention rather than in action. Scenes with recumbent victims, seated supplicants (Plate 76, left), and belligerent warriors, all in partial or full profile, appear after 500 (9.16.10.0.0). Both early and late Yaxchilán styles are less harmonious than that of Piedras Negras. The stereotype of Yaxchilán, with pear-shaped heads and bulbous profiles of long curves, is most striking. Body proportions are more ungainly; the abrupt relief in two planes with coarsely incised lines is less agreeable to the eye. The rhythmic grace of Piedras Negras work is absent.

Stela II proves the co-existence of two sharply distinct styles of relief. The back (Plate 76, left), facing a temple, shows a masked priest brandishing a sceptre over three kneeling supplicants. Carved in large units, every item of costume and jewellery is portrayed as if under magnification, on a scale larger than the scale of actual visual impressions. The front of Stela II is altogether different (Plate 76, right): the figures are svelte and in profile upon an empty ground scored only by diminutive glyph blocks. The details of costume all keep to the visual scale, with each object keyed to an actual rather than to a conceptual size. The two faces of the stela, according to Miss Proskouriakoff's trait graphs, were carved at the same time (c. 531, or 9.17.0.0.0 ± 40 years), so that we may suppose the presence of two schools or generations, one retaining the traditional figure of Petén style in the back scene, and another possibly younger whose work in the front exhibits a flat relief style, visually correct scale, and postures of disciplined attention.

At Yaxchilán the direct representations of visionary and penitential rites are unique. Both types of rite were carved on over-door lintels. In the penitential scenes a devotee draws blood from the tongue in the presence of a priest (Lintels 17 and 24). In the visions, one or two figures observe a serpent rising in standing coils from an altar. The head of a human being (Plate 77) emerges from the open jaws of the reptile (Lintels 18, 25, 13, and 14). The association of visions and penitence, of blood-letting and apparitions, occurs only at Yaxchilán, and it seems to prefigure innumerable Toltec and Aztec representations of human sacrifices and plumed serpent symbols. What most strikes us in relation to Maya conventions is the matter-of-fact visual record. Elsewhere, the factual representation of violent scenes was avoided (Piedras Negras), or translated into esoteric symbols (Quiriguá). Yaxchilán reliefs provide the plainest record of the military and religious aggressions in Maya life during the last centuries of Classic Usumacinta history.

Of all this nothing appears in the figural art of Palenque. Certain conventional forms, such as the slab and prism stelae, are entirely absent. The only stela-like figure at Palen-

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que is a nearly full-round human form, more like a statue than any in the Copán series. It bears a date about 430 (9.13.0.0.0, by inscription).<sup>20</sup> The reliefs at Palenque in stucco and stone are sometimes like fine drawings with conscious refinement of line and with gradations of modelling, occasionally so delicate as to approach shading. These relief panels are all in tectonic positions, at the piers of the façades, upon the inner shrine walls, and on the terrace faces (Plate 79) and mansard roofs of the graceful little buildings.<sup>21</sup> None of the reliefs shows violent action; only static symbolic themes. There are profile devotees flanking the symbols of worship or might, and men holding infants framed by

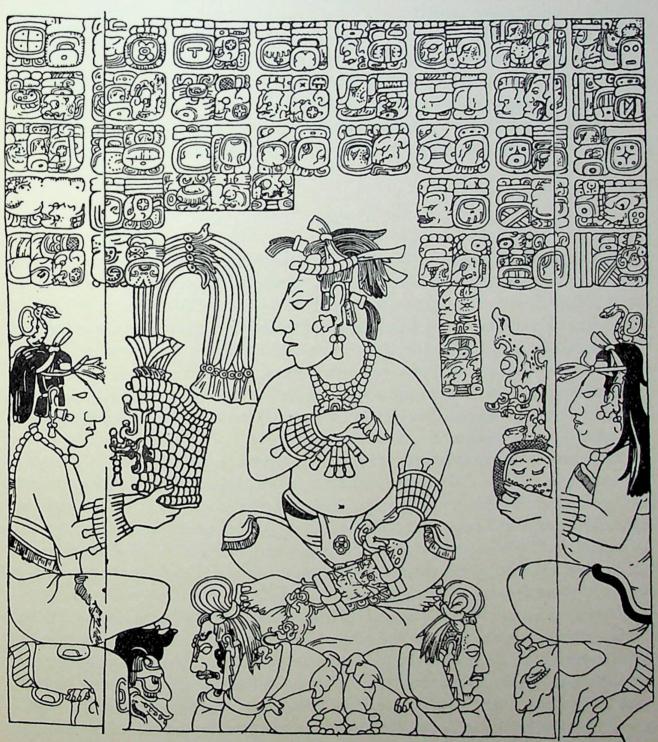


Figure 50. Palenque, stucco relief on ground floor of palace tower, c. 500

bands of planetary symbols, as well as scenes of homage and triumph. The postures, the faces, and the expressions are stereotyped, lacking the portraiture of Yaxchilán, Piedras Negras, or Seibal. The main variations among the repeating figures lie in attributes and costume. Occasionally, as in the newly discovered relief of the slaves,<sup>22</sup> the modelling suggests individual identity without full characterization (Figure 50).

In general, the reliefs all describe a courtly life of intense discipline, expressed by exquisite motions and in stylized gestures. The only portraits are full-round stucco heads, originally attached to façade entablatures on certain buildings, or used for funeral offerings, as in the Ruz tomb (Plate 78). Such heads, used as architectural decoration, occur also at Piedras Negras, and in symbolic deformations like glyph-forms at Quiriguá. An almost caricatural quality appears in limestone reliefs applied as a facing to the terrace platform of House C in the palace (Plate 79). There, on each slab, nearly nude figures with oversize heads crouch and cower, looking in terror towards the central stair leading down to the court. They are perhaps portraits of subject tribespeople, differing categorically from the graceful and impenetrable images of the priests and rulers of Palenque.

# Jades

Classic Maya jade carvings repeat and condense the themes of monumental sculpture. The exact origin of Maya jade is unknown, although the principal sources of the material and of its workmanship were probably in the highlands of Guatemala. Important burial offerings have been found both at Kaminaljuyú, in one of the suburbs of Guatemala City, and at Nebaj in the western highlands.<sup>23</sup> Different varieties of jade occur: a jewel jade, a commoner pale green stone, and a dark green variety. The material was always worked with stone tools and occasionally with drills of bone. Abrasives helped the sculptor, but metal tools were lacking until the last few generations before the Spanish Conquest.

The debt of the Maya sculptors to their contemporary draughtsmen and painters is as apparent in the jades as in the monumental reliefs. Nowhere is it more striking than in the Leyden Plate,<sup>24</sup> a slab of pale green jade incised with the outlines of a standing figure resembling those on the early stelae of Tikal. The carving is essentially a drawing transferred to jade. The Initial-Series inscription, 8.14.3.1.12, refers to a time about 180 years earlier than the date of the carving, which Miss Proskouriakoff assigns by style to 9.3.0.0.0 (about 235).

The smaller, more sculptural examples of Early Classic Maya jade-carving are hesitant in their effort to describe form, as if Neolithic limitations of technique were insuperable. The elements of form are all of about the same shape and size, all of the same degree of projection, and similar in amount of detail. It is a soft-looking relief of schematic units, each unit reflecting the coarse tools and the difficulty of working the hard jade. Mid-Classic jade-carvers, from about 350 to 650, overcame these difficulties by the same means as in monumental relief sculpture: they varied the width of the cuts and their depth, and they modulated the surfaces more carefully. Certain examples, like the large

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plaque from Nebaj (Plate 80A), evoke the narrative reliefs of Piedras Negras. The linear outlines have a precision and tautness such as if they were made of bent wire, and the vertical cuts between front and rear planes enhance these energetic contours. A skilful shift between profuse and sparse detail in the surface guides the eye to the narrative and expressive focal points in the composition: it is comparable to the techniques called plano-relief and modelled carving in pottery manufacture.

# Pottery

These techniques of carved pottery decoration coincide in Maya archaeology with the cessation of large figural sculpture. They are ascribed to the Late Classic, or Puuc, period, and they were made both in the Guatemalan highlands and in the Puuc territory of north-western Yucatán. Figural carving often adorns the more ornate shapes, such as globular and pyriform vessels. These suddenly re-appeared in the Maya repertory much like revivals of ancient pre-Classic shapes. Such shapes perhaps originated in Central America.<sup>25</sup>

The invention of carved pottery is of Early Classic date, a technique called 'gouged-and-incised', in which scroll patterns were engraved in the clay and reinforced by slices or gouges repeating the main contours. A later development, called plano-relief carving, characterized the end of the Early Classic era, both in Maya wares and at Teotihuacán in the Valley of Mexico. In plano-relief, the background was carved to produce a design in two planes, front and rear, without modelled passages between the ground and the figure. Modelled carving is the final Late Classic refinement, with stamped and mould-made versions, which reflect Mexican influences. Modelled carving was probably a luxury, comparable in value to the jades. Intact examples are very rare: an ornate one is the melon-shaped bowl (Plate 80B) found at San Agustín Acasaguastlán, about 50 miles from Quiriguá. A central seated figure grasps in his arms the coils of two serpents, each double-headed. Their convolutions surround the vessel, with secondary figures engaged among the loops and feathered backgrounds.

The production of figurines was probably introduced to the Maya peoples from the Mexican mainland. Their occurrence is limited to early pre-Classic (Mamom) and to Middle and Late Classic periods after a lapse of about six centuries.<sup>27</sup> Surviving figurines are few, as were the centres of production. The pre-Classic examples have not been systematically published; the Middle and Late Classic burial types have only recently attracted attention, especially at Jaina Island and in the lower Usumacinta valley. They usually incorporate whistles or clay pellets. The Jaina types are the most numerous, and their workmanship is superlative. Two main groups are evident: hand-made whistle figurines (Plate 81), dating from the opening generations of the mid-Classic phase (late Tzakol and early Tepeu in the Uaxactún chronology), and later mould-made rattle-figurines belonging to the Puuc period, that is Late Classic times.<sup>28</sup> Another centre, Jonuta, in the lower Usumacinta valley, has long occupied a shadowy place in the literature on Maya ceramics: possibly a style of mould-made figurines with hand-

worked faces, represented by examples in Washington and Cambridge, Massachusetts, originated there.<sup>29</sup>

The hand-made figurines are 10-25 inches high, made of a fine orange clay, whitewashed, and painted in blues and ochres. At least three stages of development are evident in the Jaina examples: the earliest (c. A.D. 400?) have symmetrical postures, large disk ear-plugs, and bulbous heads with protuberant eyes. The costumes and jewellery are indicated by ample ribbons and fillets of clay. 30 The second group probably corresponds to the fifth and sixth centuries. The stance frequently repeats the splayed feet of the Petén stelae; the faces faithfully describe age, status, and expression by a technique of moulding, incision, and filleting, all on a jeweller's scale. The portraits are unforgettable, and the dress shows swiftly-changing fashions. The third group, perhaps from Jonuta, has closed contours, as if mould-made, with whistle insertions at the backs. The heads show the exquisite workmanship of the second group. Animated movements and figures in groups occur: one example shows a woman with a smaller figure in her lap (from Chiapas, now Peabody Museum, Cambridge, Massachusetts); another represents an embracing couple (Plate 81). This scene of an old lover and a young girl may have illustrated a myth or legend, for it was repeated in a much cruder technique in a handmade figurine found in the Late Classic level at San José in British Honduras, on the other side of Yucatán. Finally, in Late Classic times, the Jaina figurines and those from the Usumacinta valley all show coarsening due to mass production based on moulding techniques.31

### ARCHITECTURAL DECORATION

Monumental masks of geometric form occur on the earliest Maya pyramids, e.g. the faces of the stairway terrace of the pre-Classic pyramid at Uaxactún (Plate 65) or the pyramids of Acanceh in north-western Yucatán. Variants of these early mask-forms reappear as more or less curvilinear and natural versions in all the principal Early and Middle Classic centres, both in the Petén and in the river cities. The masks are encrusted upon the buildings or terraces, and only rarely can one observe their complete interaction with the structure itself.

Such an interaction of structure and ornament in geometrically regular forms characterizes the Puuc period, when rubble walls veneered with stone mosaics allowed the builders to redesign the decorative system. Two types of façade decoration accompany the new structural methods. The more elaborate form is the serpent-façade (Figure 52),<sup>32</sup> with the doorway treated as a serpent's gullet, framed by fangs, eyes, and ears to suggest the celestial character of the temple (Chenes). The more common form is a serpent-mask frieze of stereotyped mosaic panels alternating with colonnettes in the upper half of the façade (Plate 67B). At the corners of the façades, and on the stairway balustrades, isolated mask panels recall the ancient method of incrustation (Figure 48).

The oldest known serpent-façade is at Holmul in the Petén,<sup>33</sup> where Building A in Group II (Figure 51) is an Early Classic monument of a date earlier than A.D. 300

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(9.5.0.0.0). The east face of the platform was a serpent-mask 10 m. (33 feet) wide and 4 m. (13 feet) high, built of coursed masonry in recessed and protruding planes. There was no doorway in the gullet of this gigantic mask. Two more half-size masks adorned the south corner façade.

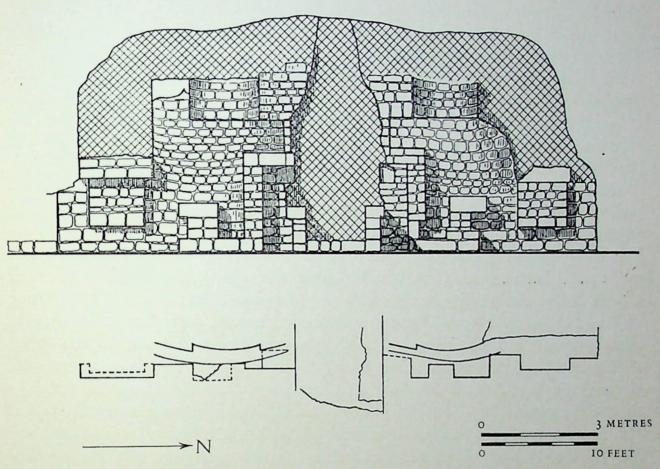


Figure 51. Holmul, Building A in Group II, façade, before 300

The façade of Structure 22 at Copán (Plate 82) incorporates a doorway as the gullet of a mask-panel. It was built before 510 (9.17.0.0.0) and is the most important single building at Copán, built of block masonry laid in mud.<sup>34</sup> The main façade looks south. Its serpent-mask doorway has teeth lining the sill and fangs protruding from the jambs, beneath geometric eye- and nose-forms in the upper façade. The four corners were adorned with two-tiered corner masks of curvilinear forms, and the upper façade bore more masks flanking the centre doorway panel. Both the doorway and the corner masks are curvilinear. Human torsos and heads in the late Cycle 9 style adorned the cornice. The entire edifice is homogeneous, belonging to the same period as Stela N. It is an early example of the serpent doorways which arose some two or three centuries later in the Chenes and Puuc regions of Yucatán.

Probably intermediate in time between the mid-Classic style of Copán and the Late Classic Chenes and Puuc façades are the Río Bec buildings, where two distinct modes of architectural sculpture can be defined. Both may span the seventh and eighth centuries. One is curvilinear, the other rectangular. The former is (by hypothesis) earlier, the latter, on account of its resemblance to the geometric style of the Puuc, late. Examples of the

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curvilinear masks are on the towers at Hormiguero, Payán, and Xpuhil (Figure 44).<sup>35</sup> The last-named have, on top of the towers, diminutive sham temples with little serpent doorways composed of two profile masks beneath a frontal overdoor mask. The Xpuhil scheme derives from Copán, but its forms are less fluid and more stereotyped. The relief is deeply cut, and the components of the masks often include several blocks of the coursed facing. This method of design surely required carving *in situ*: at Río Bec it was supplemented by stucco portions.

Examples of the second, rectangular manner are at Becán (Figure 43), Xaxbil, and Okolhuitz.<sup>36</sup> These mask panels also consist of elements covering several blocks of the facing, but they were cut before setting, and assembled on the façade. The group is technically intermediate between the curvilinear masks and the mosaic masks of the Puuc region (Plate 67B).

These differences between curved and straight modes of composing the serpentmasks re-appear in the Chenes and Puuc styles. The Chenes sculptor-architects preferred serpent-mask doorways of an intricate and dense composition (Plate 67A), while the Puuc designers restricted their mask panels to the upper façades (Plate 67B). The Chenes masks retain large curved forms, which virtually disappear in the Puuc mosaics. The Chenes designs also use elements covering many blocks of the facing, while the Puuc veneer comprises mainly small items of interchangeable units, easily prepared, and easily combined anew in fresh designs.37 The Chenes-style façades at Hochob (Plate 67A), Dzibilnocac, and El Tabasqueño differ from those of the Río Bec group more in architectural grouping than in the mode of decoration; in fact the Chenes system resembles the Río Bec system (Figure 44) closely enough to belong to the same sequence in time. On the other hand, the rectangular manner of the Río Bec decoration and the Puuc style (Figure 52) differ. The rectilinear Río Bec ornaments are more tentative and hesitant than those of the Puuc; Río Bec Curvilinear and Chenes ornament may represent the earlier stage of a sequence leading to Río Bec Rectilinear and to Puuc mosaics. A hypothetical reconstruction of the chronology would be (1) Río Bec Curvilinear; (2) Chenes serpent-façades; (3) Río Bec Rectilinear; and (4) Puuc mosaics, lasting from the seventh to the tenth centuries, and ending with the mosaic façades of Uxmal (Plates 83-5).38

In the process several new ornamental forms appeared (Plate 67B): ribbed upper façades of close-set colonnettes; three-part atadura mouldings; and small-unit mosaic decoration. The colonnettes imitate the wooden construction of Maya house walls, whose closely set vertical saplings were woven together by horizontal binders,<sup>39</sup> like withes tightly drawn, and perhaps cushioned upon belts of thatch. This constriction would give the familiar three-part profile perpetuated in stone by the atadura mouldings. The atadura appeared in Río Bec architecture on capitals framing doorways and on recessed base and capital mouldings to mark the relief panels.<sup>40</sup>

The continuous atadura (or binder) moulding characterizes the Puuc style of building, and it may have originated in the middle Usumacinta drainage, as at Bonampak (Figure 54) and Yaxchilán (Structure 21), where it may be dated as early as the mid sixth century (9.18.10.0.0 at Structure 1 in Bonampak).<sup>41</sup> The Puuc version of the atadura frames

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the frieze with upper and lower boundaries: its purpose was to stress unity by continuous horizontal members visually binding or tying the façade together (Plate 67B). Both the colonnettes and the *atadura* mouldings produced brilliant contrasts of light and shade.

These effects of chiaroscuro were reinforced in the Puuc by the creation of the mosaic style of masonry. The Río Bec and Chenes architects relied upon ornamental forms covering several blocks of the facing. In the Puuc, each unit of ornament was reformulated. It is like typographical design: from a number of small units, each carved with a geometric shape, large pictures are formed (Figure 52). In Río Bec and Chenes façades the serpent-masks are still unitary pictorial schemes, but in Puuc design they are like typewriter pictures, composed with key and ribbon from a small number of conventional signs available in unlimited quantities.

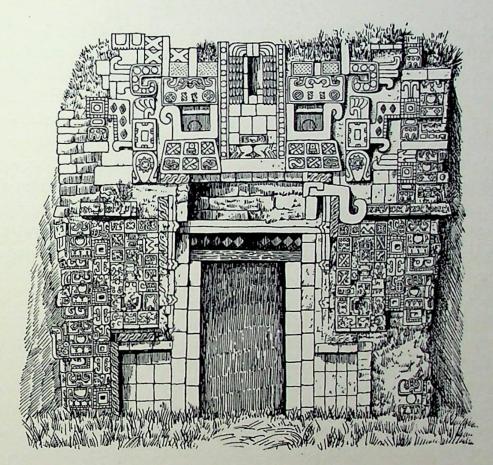


Figure 52. Uxmal, north-east pyramid, House of the Magician, serpent-mask façade, seventh-ninth centuries (?)

At Uxmal, the oldest edifices, like the core of the Great South Pyramid,<sup>42</sup> show masks built up of such units. The penultimate stage of the Pyramid of the Magician is an imitation of the serpent-mask façades of the Chenes and Río Bec type, and it is completely made of re-assembled 'typographical' elements, salvaged from some older edifice (Figure 52). Hence it is difficult to date Uxmal façades by inspection of their sculptural components alone; for these were being re-combined and augmented on each new building site in a medley of old and new elements.

The modes of re-use, nevertheless, show distinct chronological changes, best seen in the Nunnery, where we have assumed (p. 149) that the sequence was north, south, east, and west, on the strength of the wall-span ratios, an ordering supported also by the ornamental programme on the upper façades. Serpent-masks in tiers like those of the older western Puuc sites appear in abundance only on the north pavilion (Plate 83).<sup>43</sup> These tiers of masks were avoided in the south building (Figure 47), where the only serpent-masks are like flaming or smoking coronations to the over-door reliefs showing model temples upon a latticed ground. The model temples are like those of Chacmultún, and the lattice ground resembles the Labná archway. The east pavilion is the least ornate (Plate 84), having masks in tiers only at the corners and over the central door. Most of the frieze has a lattice, enlivened on the court façade by six trapezoidal accumulations of eight stylized sky bands, each with double-end serpent-heads in profile.

The west building (Plate 85A) is the most ornate in the Nunnery Court, showing serpent-masks in tiers at the corners and above the last but one doorways. Models of temples adorn the terminal doorways, and big key frets scaled to the changing intervals between doorways mark a broad rhythm across the entire length of the frieze. Full-round statues are affixed to several of these key frets. The five central doorways are bound together by feathered serpent forms whose bodies seem to disappear into the walls at the doorways, and interlace in spiral columns between the doorways. Three principal planes of relief are thus established: the ground plane of latticed forms; the key frets of rectilinear units; and the rounded sculpture of serpent bodies and statues. A fourth plane is added by the over-door panels of serpent-masks in tiers near the ends of the building. The effort to diversify the internal rhythms of the façade is not altogether successful, because the various combinations of forms are inadequately differentiated, and their scale does not command attention from a distance.

These timid and irresolute efforts received a much bolder restatement on the façades of the Governor's Palace (Plate 85B and Figure 49). Its three pavilions contain contrapuntal rhythms which are the most elaborate in all Maya architecture. Every corner is marked by a tier of five serpent-masks. These are the only vertical arrangements: every other repetition of the serpent-mask is diagonally staggered, so that an angular undulation of serpent-masks winds across the façades in five pyramidal outlines, one in each end pavilion, and three in the main pavilion. Key frets, like angular eyes, mark still different diagonal rhythms in this system. What was a stiff grid of verticals and horizontals in the Nunnery, here resembles a supple basket-weave of interlacing themes in distinct planes.

#### PAINTING

Classic Maya pictorial traditions survive in only a few murals, vases, and manuscripts. Although they share a common fund of figural conventions, the murals and the manuscripts belong to different epochs. As in the ancient Mediterranean, figural scenes in wall painting preceded vase-painting, and both are older than the illustrations in manuscripts.

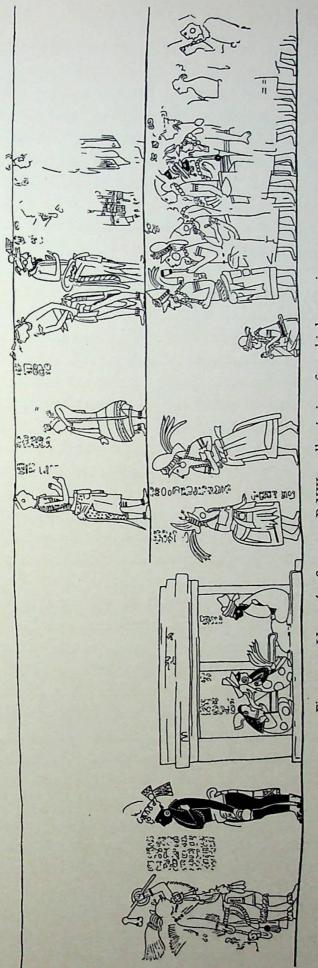


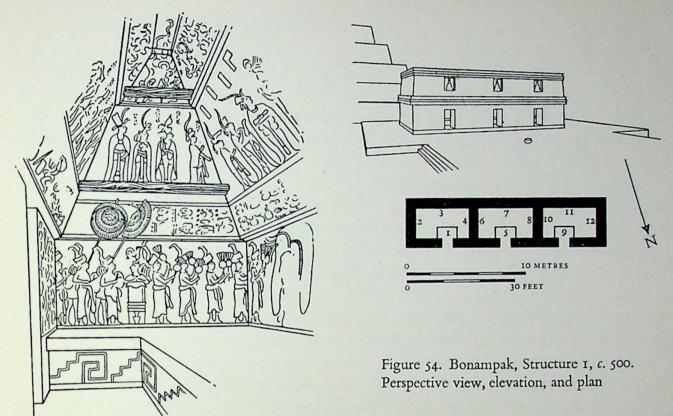
Figure 53. Uaxactún, Structure B XIII, wall painting, first-third centuries

Wall paintings of Early Classic date are known; the painted vases are mid-Classic; and the three surviving manuscripts are ascribed to Late Classic times.

The Early Classic development of mural technique marks an important stage in the emancipation of Maya painting from sculptural decoration, and it precedes the appearance of a polychrome figural style in pottery painting. The pictorial system in both depends upon outline drawing, coloured in flat, local tones, without gradations of light and shade, and without the illusion of rounded bodies in gradated colour. The oldest known Maya mural was uncovered in 1937 at Uaxactún in Structure B XIII (Figure 53), on the wall of a small unvaulted room of Early Classic date (Tzakol, roughly first-third centuries A.D.).44 The painting measures 3.2 by 0.9 m. (10 feet 6 inches by 3 feet) and is composed in two registers. At least twenty-six human figures are shown, above a predella of seventy-two calendrical day-signs. The figures were painted in five colours on a brownish-pink ground, and their gestures have a dynamic animation not to be found in sculpture of the same period; for example, the posture of the dancing dwarf in the upper register appears in sculpture only after 450.45 The mural contains three scenes: a conference between standing figures on the left; three seated persons inside a house; and four or possibly eight dancers on the right, moving to the sounds made by a seated drummer, and attended by a dozen or more spectators. All wear voluminous headdresses and billowing garments, but only the two standing figures on the left have sandals. At least three scales appear - large, medium, and small - corresponding probably to the rank of the personages. Two devices were used to show depth. Overlapping figures mark a correct visual collocation in space. Elsewhere the use of two registers to describe the dancers shows the persistence of conceptual conventions. The building is shown, as in Mexican manuscripts, in cross-section; it is a mortar-beam chamber two bays deep with the doorstep on the right.

Some two centuries later (c. 550, or 9.18.10.0.0), at Bonampak, substantially the same pictorial programme, with seated personages indoors attended by musicians and by dignitaries in conference, re-appears on the walls of Structure 1, greatly augmented with battle and dance scenes (Plate 86).<sup>46</sup> The tectonic order is much improved. At Uaxactún the figural friezes were like independent strips of illustration, while at Bonampak the different registers correspond to bearing wall, vault overhang, and capstone levels. The system of delineation remains unchanged, with fluid outlines enclosing flat local tones. The scale is more unified, with differences of size corresponding to tall and short people rather than to principal and secondary personages. The figural poses show profile and frontal conventions as upon the stelae: only the battle scene (Plate 90) contains many new studies of figures falling or in violent action. The suggestions of deep space are much more insistent, especially in the terraced backgrounds and the multiplicity of pictorial planes, as when persons appear in Room 3 both in front and at the back of the throne-dais (Plate 88).

Preparatory drawings on the pure lime plaster were made in red strokes, and later reinforced with firm black lines. Whether true fresco on wet plaster, or dry plaster-painting was the process has not been satisfactorily determined. The pigments are all inorganic, with the possible exception of carbonaceous blacks. The greens were secured



by adding blue and yellow pigments. Each room has a dais about 1.5 m. (5 feet) wide and 70 cm. (2 feet 3 inches) high. In Room 1, the risers of these bench-like platforms are painted with stepped key frets of equivalent ground-figure patterns (Plate 86 and Figure 54). Each dais surrounds a small sunken area at the doorway. Thus the frescoes were protected by a barrier and by being on a higher level than persons standing at or just inside the doorway.

The scenes on the walls of the three adjoining chambers represent the same dramatis personae. The family group of a man and woman with children and servants recurs in both end rooms, upon the partitions (Walls 4 and 10) separating them from the central chamber with the battle scenes. Thus the family (Plate 89A), though not central to the composition in any one chamber, appears in a privileged position of symmetry with respect to the total composition spanning the three rooms. Other recurrent personages are the three dignitaries of the robing scenes on Walls 1 and 3 (Plate 86), who recur as warriors on Walls 5 and 7 in the central battle chamber (Plate 87), and once more on the top register of Wall 11 as principals in the dance. The white-robed figures with ornate head-dresses all on Wall 3 re-appear on Wall 9 (Plate 88); many look like courtiers, councillors, or priests.

Four registers composing two narrative scenes cover the walls. The bottom register has a blue background which may signify outdoors: it can also signify night. This register begins at the doorway (Plate 86). The files of musicians and attendants face away from the door to converge upon the three central personages on the centre of the opposite wall. On the narrow end walls, four long-handled feather fans extend beyond the frame of this register at the beginning and end of a narrow frieze of glyphic inscriptions on the

base of the vault overhangs. Over the doorway, the space of the inscription frieze continues with seated servants who hold ready the jaguar hides, the jade ornaments, and the fans of the costumed persons being robed in the top register. Wall 4, as we have seen, displays the family group (Plate 89A). This action continues on the rear wall, where an attendant displays a child to the white-robed courtiers, who discuss the event with animated gestures. The ochre ground is believed to signify interior space; it may, however, indicate daytime action.

The spaces in all these narrative scenes are continuous, with figural sequences which continue unbroken round the corners of the room. The upper register shows a time of robing and preparations prior to the public appearance in the bottom register, so that the scenes nearest the spectator are probably the closest in time as well. In the cap of the vault, bands of serpent-masks, frontal and in profile, confront one another to indicate a symbolic sky. This celestial zone is invaded by green feathers of the gigantic head-dresses below. Differences of size among the figures are visual rather than symbolic, and no trace of perspective diminution appears among the representations.

In this room every detail conveys a sense of preparation and rehearsal. The upper registers concern the private life of the court, revolving about the family of the prince and focused upon preparations for a great ceremony. The tone of intimate description is kept throughout; the narrative is devoid of magniloquent rhetoric, and the artist has reported many homely details of actual experience, such as the servant adjusting the loin-cloth of a robed principal, or the gesture of command with which the prince upon the dais underlines his remarks to the person bearing the child at the south-west corner of Wall 3. Costumes, gestures, and expressions display a refined ritual of social behaviour, governed by luxurious tastes and by a rigidly stylized code of manners. We have nothing like this art of intimate narrative in the older Petén style: it is limited to the Usumacinta cities and to the painting on pottery from the Alta Verapaz of the fifth and sixth centuries (Plate 91B).

In the other two rooms, the composition by registers is much less evident. Registers are merely suggested in the big battles and terraces of the central chamber, and occur explicitly only on the north or entrance wall (No. 9) of the west chamber, where standing white-robed courtiers, seated nobles, and a procession of musicians and athletes occupy upper, central, and lower bands. Here, they are separated by red ground lines, all beneath a capstone band of star symbols and bird- and serpent-masks. The two registers in the vault overhang both have blue backgrounds, but their connexion in space and in time is not clear.

There has been some discussion of the chronological order of the three rooms. Proskouriakoff and Thompson suggested that Rooms 1, 2, and 3 were painted in that order, but Tozzer preferred to place 2 first, followed by 1 and 3. The question cannot be resolved definitely, but it appears reasonable to group the register compositions as the work of one artist or period, and the full-wall pictures as the work of later years or persons. In this conception, Rooms 1 and 3 preceded Room 2. Certainly the figural variety in Room 2 is the greatest, while Room 3 is less turbulent, and Room 1 is the most static.<sup>47</sup>

The paintings of Room 3 (Plate 88) are intermediate in time, according to this notion of the progressive unification of full-wall space. The residual use of registers and static figures on the north wall and the rarity of action figures, as well as the repetition of longhandled fans, both used to mark the limits of the upper zone and to unite it to the lower row, recall Room 1. Room 3 amplifies the triptych composition. In Room 1, the fans and the upper registers formed an audience scene on three walls (Nos 2, 3, and 4). In Room 3 the terraces of a pyramidal platform extend over three walls, and the scene thus formed even includes the files of figures in the lower register on Wall 12. The pyramid has eight stages, rising between other platforms. On the west (Wall 10) the prince upon his dais surveys the dance accompanied by his family and servants.48 On the east (Wall 12) an ugly dwarf surveys the scene from a litter borne by a dense cluster of costumed men. The terraced steps of the pyramid swarm with winged human figures, ten in number, wearing quetzal feather head-dresses and trapezoidal wings protruding from their hips. At the centre are four plain figures. Two at ground level are raising or tossing the ankles and wrists of a supine third figure (Plate 89B). Above the latter a fourth person holds a knife-like instrument.

The scene has been described as a sacrifice by heart removal, although the pictorial evidence for this interpretation is far from conclusive. The perspective conventions of the artist clearly indicate the position of the horizontal figure: he is shown in the air, with two men below. They are not leaning forward to tie the limbs of the victim; their bodies arch back, as if to toss or catch the body. On Wall 9, near the south-west corner, an official with a fan, who may be the master of ceremonies, sits upon the fourth terrace with his right leg negligently hanging down. This clear indication of the stepped terracing of the ground plane finds no confirmation in the alleged sacrifice. To judge from the reproductions, Wall 10 is the most badly damaged. All the winged figures are flaked away, and one suspects either deliberate mutilation or an unstable technique differing from that of the other walls. The general impression is of music, dancing, and brilliant pageantry, witnessed by important personages, and centring upon a display of acrobats and tumblers, of whom others approach from the left. The first and second figures at the door wear ball-players' costume: the third and fourth bear fans. One whole act of the games or pageant is drawing to an end; another is about to begin (Plate 88).

The central room (Room 2) has the boldest and most unconventional studies of action (Plate 87). Nothing like them is known in Maya art, although many groupings in Rooms 1 and 3 have analogies in relief sculpture, especially at Yaxchilán and Piedras Negras. Only the ball-court markers with studies of players in motion are comparable 50 to the battle scenes on Walls 6, 7, and 8. The three walls form a triptych, separated from the entrance wall (No. 5) by wide lines of brown paint at the corners. These two pictures are entirely separate. The triptych describes a raid by Maya warriors upon a tribe of stringy-haired, dark-skinned folk who live among dense vegetation, shown by swirling red lines on a green ground (Plate 90). On the entrance wall is a pyramidal terrace with the captives abjectly seated along the upper steps. In the battle, the victorious Mayas outnumber their victims by nearly ten to one: of a hundred figures, only about ten, crushed underfoot by the Maya hordes, belong to the enemy tribe. Only ten captives,

one a severed head, appear in the opposite mural. The two scenes probably show related instants in the capture and public display of the same enemy. The triptych is filled with agitation and noise. The arraignment is hushed and static, with all figures shown as if holding their breath to hear the order pronounced by the prince, pointing with his left hand and clad in a cape of jaguar skin. Above both scenes in the cap of the vault are seven cartouches. Three are rimmed in blue and separated by seated captives on the south wall; the north cartouches contain human and animal figures, perhaps representing constellations.

The battle scene centres upon an action by principals clad in jaguar skins, just to the right of the centre on the south wall (No. 7). On the end wall on the left, standard bearers and a trumpeter rally the attacking forces. On the right end wall supplies of some projectile are brought up. Scores of violent hand-to-hand actions fill the lower registers, with six or more Maya warriors in full regalia, crushing the nude and helpless enemy in each group. The effect is of a punitive action rather than of a strategic contest. The stringy-haired nude enemy seems poor-spirited and defenceless. If the scene in Room 3 shows human sacrifice, as supposed by Thompson, the battle is probably a raid to take prisoners for it. One detail in the arrangement strongly favours the idea of a punitive action: three crouching captives clearly have blood dripping from their fingertips, as if being punished for some crime. The theme of the arraignment of captives is known in relief sculpture at Piedras Negras (Stela 12; Plate 74) and the judgement theme appears there also on Lintel 3 (Plate 73). But nowhere else have we so complete a context for these themes as in the Bonampak murals, which require an entirely fresh interpretation of the cultural meaning of mid-Classic art.

For many years the accepted symbol of Classic Maya civilization has been the image of a pacific priest-ruler, best represented in the stelae of the Petén during Early Classic times (Plates 70–1). The historical opposite of this theocratic god-impersonator is the Toltec Maya warrior of the post-Classic era at Chichén Itza (Plate 101). Maya and Mexican behaviour and culture are here clearly contrasted. The line between them was drawn at about A.D. 1000 and north of Uxmal.

Now, however, it is clear from Bonampak and radiocarbon dating that these 'Mexican' modes of behaviour were current in the river cities about 500. Military leaders displaced priestly rulers in the middle Usumacinta cities some centuries earlier, and the traditional view of a pacific Maya ethos holds only for the Petén, and for pre-Classic and Early Classic periods. Classic Maya art therefore embraces and describes two quite different patterns of behaviour – theocratic and militaristic. Their historical separation probably antedates the middle Usumacinta style of painted and sculptural scenes.

A Maya mural at Chacmultún in the Puuc <sup>51</sup> decorates a stone veneer structure with atadura mouldings. The figures do not overlap, and they form a procession in two registers. The body motions are stiff, and the work suggests a provincial and retardataire school of Late Classic date.

# Pottery Painting

Pottery painted before firing is common throughout the archaeological history of the Maya peoples. Especial virtuosity in painted figural designs appears during the Early

(Tzakol) and mid-Classic (Tepeu 1, 2) periods. At all times, however, only low firing temperatures (1350° C. maximum) could be produced, so that the vessel structure is heavy because of its poor tensile strength, the surfaces are soft, and the pigments are restricted to reds and oranges, browns and yellows.<sup>52</sup> The lustrous appearance of some vessels may have been produced by a lacquer-like coating of organic nature. As Miss Shepard puts it, Petén pottery 'inevitably gives the impression that potters were striving for effect at the expense of usefulness'.

During the Early Classic centuries, many Maya potters successfully evaded the limitations of low-heat firing by applying a thin stucco or clay coat to the vessel, and painting upon the coat in vivid colours of a high key and wide variety. Examples have been excavated at many sites.<sup>53</sup> The most interesting specimens are from two tombs at Kaminaljuyú, where the same generation of painters produced mixed groups of mortuary vessels decorated in both Teotihuacán and Maya symbolic systems, at some time prior to 300 (9.5.0.0.0). The vessel shapes and the technique of painted stucco incrustation may be importations from highland Mexico, but the curvilinear outlines and the thematic matter are purely Maya, with body outlines and postures of a degree of conventionality also seen in glyph forms.

The pictorial space depends upon conceptual scale: on the cylindrical wall of one vessel giant serpent-head masks alternate with seated figures in profile.<sup>54</sup> The manual conditions of the draughtsmanship, the cheerful pinks, yellows, and greens, and the appearance of glyph forms in the costumes and attributes strongly suggest a connexion between this art and the coeval school of manuscript illumination. All the works of this school are lost, but its existence is deduced from painted vessels and from the much later Maya manuscripts described below.

The general formal characteristics of the Maya pictorial system have already been discussed in the section on mural painting, and the vases require no ampler treatment, except to note that cylindrical walls favoured continuous designs. The concave space of vision was inverted to fit the convex surfaces of the cylindrical vessels, whose field lacks a lateral frame. One solution was to align processional figures in a continuous band, which we may call re-entrant composition. Beginning, end, and centre are identical, in an equivalence impossible on flat surfaces. Maya painters of this period also transferred the pagination of book-like compositions to pottery surfaces, as in the splendid stuccoed vessel from Burial A 31 at Uaxactún (Plate 91A). It has front and rear panels, each with paired figures in profile, seated among columns of glyphs. Pink and green fields bear glyphs and figures outlined in fine black lines drawn probably with a reed pen.

Scenes with intricate narrative content did not appear until mid-Classic (Tepeu) times. The principal centres of painted pottery with figural scenes cluster in the Chixoy drainage of the central and western highlands. The clay is tempered with volcanic ash, making a porous grey matrix under the white or orange slip. The Chamá style is the most celebrated example of this art. It embodies many traits of Classic Usumacinta expression, with ethnic types like those of Piedras Negras, Yaxchilán, and Bonampak. Chamá figural painting should be dated during the sixth and seventh centuries, 55 coevally with the most advanced expressions of painting in the lake and river cities.

Two types stand out. One group has repetitious figures, for example anthropomorphic bat gods with outspread wings; the other, less stereotyped scenes (Plate 91B) are probably based on mythology and poetry, and scenes of audience or conference. Both groups have in common a chevron decoration on lip and base painted in deep blue or black upon the ochre slip. The backgrounds are generally orange in colour, and the figures are drawn with firm, continuous black contours surrounding body colours in deep orange, yellow, and brown. In the narrow range of fired Maya colours, blacks assume unusual importance, carrying the principal rhythms. A faithful visual record was the main aim of the painters. Calligraphic flourishes are absent, and the main departures from matter-of-fact reporting appear in symbolic substitutions and transformations, required for calendrical or theomorphic statements, as upon a vase with a rabbit impersonator seated in respectful attention before a jewelled glyph; his ears turn into tortoise shells.56 Others, like the litter vase of Ratinlixul (Plate 91B), convey a caricatural exaggeration of the pendulous Maya profile, in a scene showing a travelling prince with bearers carrying his throne and the tripod supports used to set down the litter in moments of pause.<sup>57</sup> Even more hostile caricatures appear in the vase portraying a conference between two black-painted warriors and their thug-like attendants, documenting a strong ethnic prejudice against the subjects portrayed.

No other polychrome vessels approach the brilliance of those of orange, red, and black Chamá style. In the Petén and in the western provinces, the tonality was dimmer. An example from Nebaj, only 70 km. (45 miles) south-west of Chamá, showing a prince seated among courtiers,<sup>58</sup> lacks the brilliance of colour and the firmness of Chamá line. A round-bottomed vase said to be from Jaina Island <sup>59</sup> is likewise indecisive of line and dim in colour. It has the archaeological interest of portraying an indoor hammock slung from a wooden post, as well as rounded vases of its own type, capped with knob-handled lids which may have been of wood. A meal is in progress. The entire scene rests upon a base frieze painted as a sky band.

Vase-paintings from the Petén and British Honduras show hieratic themes; they are graphic in execution, coarser in structural technique, and more elongated and narrow than other Maya ceramic shapes of the same period. The finds from the vaulted tomb at Uaxactún of the same date as Tepeu I, from Holmul, and from Yalloch in British Honduras, are examples.<sup>60</sup> In one group (Holmul V and Tepeu I) complicated scenes of ritual assembly are pictured, as in almost identical examples from Holmul and Yalloch, where priests stand by tree-like staffs with birds in the upper zones. In another group, a strong calligraphic tendency developed into free brushwork with a rhythmic structure almost independent of the image. Of early Tepeu date is the shallow tripod bowl from Uaxactún which shows a priest in costume, perhaps dancing (Plate 92A). The image dissolves into radial brush-strokes in black and deep orange, swirling into the circular frame.

We have now mentioned the chief styles of western Maya figure-painting on pottery, in the Alta Verapaz, in western Yucatán, and in the Petén-British Honduras regions. Two eastern styles, 61 one centred upon Copán and Salvador, the other the Ulúa-Yojoa style of north-western Honduras, probably derive from these western prototypes. The

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Copador pottery of Copán (Plate 92B) was not only exported to western El Salvador, but it was also imitated there. Its brilliant surface depends upon specular hematite pigments of glittering red, with cursive human figures and birds drawn in a few rigidly stylized types. Ulúa river figure-painting is more dense in composition with many black areas. From Lake Yojoa come heavy-walled barrel and cylindrical shapes with careful textural indications drawn in straight lines. The figural types and the processional compositions almost all recall Chamá and Petén models.

### CHAPTER 9

## FROM THE TOLTEC MAYA TO THE SPANIARDS

CHICHÉN ITZA, the metropolitan centre of civilization in Yucatán, was under foreign domination until the thirteenth century. Mexican foreigners began to rule in Yucatán about 1000.¹ The worship of a feathered serpent god of Mexican origin, the Mexican manner of human sacrifice by heart excision, with skull racks to display the sacrificial victims, and many other Mexican highland traits prove the ethnic identity between the Mexican overlords in Yucatán and the Toltec masters of Tula. The architectural, sculptural, and ceramic resemblances between Toltec Chichén and Tula in the Valley of Mexico are so close that Chichén has long been treated as a colonial extension of the Toltec state, like Kaminaljuyú in the Guatemalan highlands, which was probably a colonial outpost of Teotihuacán about a millennium earlier.

In the thirteenth century the metropolis was transferred to Mayapán, where dwellings and shrines for a large population were built within a walled precinct, governed by a confederacy of three regional lords, all still under Mexican highland influence. About 1450 this confederacy broke up, and Maya society reverted to local rule, as at Tulum, and to provincial arts of retrograde quality, enduring until the Spanish re-unification of Yucatán in 1544. This sequence has been archaeologically fixed by massive evidence which invalidates the earlier reconstructions based upon deformed and distorted literary sources. It contains three phases – Late Classic, to about 1000; Toltec Maya, continuing into the thirteenth century; and a Maya re-occupation period until the sixteenth century.<sup>3</sup>

#### ARCHITECTURE

## Chichén Itza

Chichén Itza (Figure 55) is a loose cluster of buildings occupying an area about 2 by 1½ miles, half the size of Teotihuacán, and smaller than Tikal or Xochicalco. At intervals the limestone plain has collapsed into subterranean caverns to produce conical sinks, as well as open pools with steep walls called cenotes. The northernmost cenote is the famous Well of Sacrifice, whence E. H. Thompson dredged the remains of many Toltec Maya offerings. South of this cenote rises an immense primary platform of Toltec date, bearing the principal Toltec edifices, the ball-court, the Castillo, the colonnades, and the Temple of the Warriors. To the south, again, about 550 yards from the Toltec buildings, are two Late Classic buildings in Puuc style, the Nunnery and the Akab Dzib. Other small buildings of the same early period are scattered throughout the bush to the south of these main groups. The two zones, Toltec Maya to the north and Puuc Maya to the south, have a common boundary in the neighbourhood of the cylindrical Caracol and the adjoining Temple of the Wall Panels.

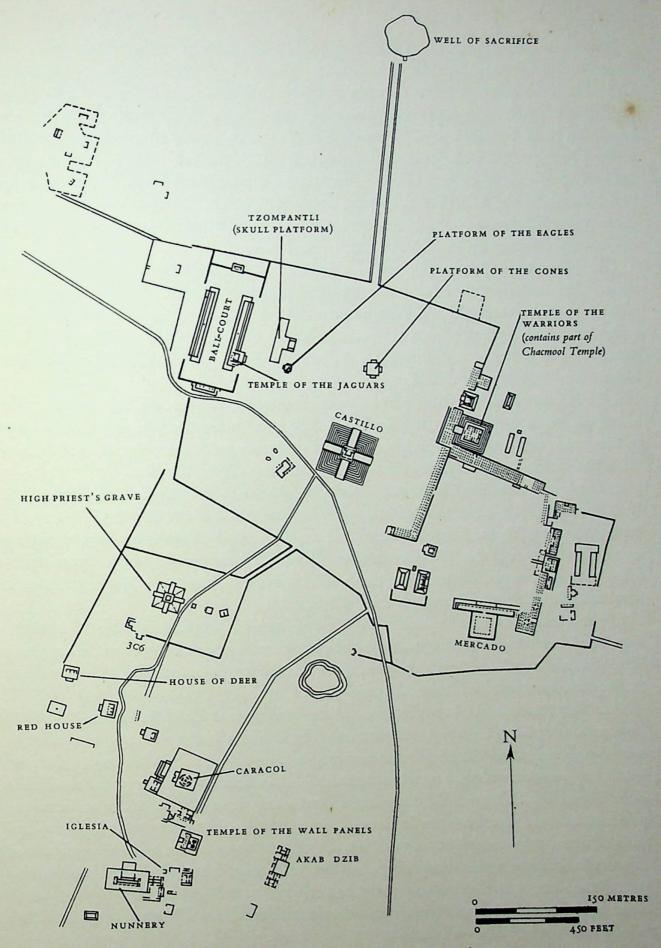


Figure 55. Chichén Itza. General plan in the thirteenth century

The Akab Dzib ('Writing in the Dark') resembles in plan the storeyed edifices at Chacmultún. The Nunnery in turn distantly recalls the Pyramid of the Magician at Uxmal in its rounded platform corners, its two-storey edifice, and the Chenes style of the serpent-façade of its low wing protruding eastward from the main platform. The Iglesia is a small separate temple facing west, as if to mark a court along the eastern flank of the Nunnery. No element in this cluster betrays Toltec influence; everything is of the Late Classic period, and the Puuc-Chenes style. Other Late Classic buildings are the Red House and the House of the Deer, north-west of the Caracol. Another cluster, about 550 yards south of the Nunnery, includes about six small groups, and contains edifices of both periods, Puuc Maya and Toltec Maya.

The chronology of the principal Toltec buildings 5 is still far from complete, but the main sequence is clear, containing an early phase with recognizable Puuc traits, a middle phase of buildings with sloping bases, serpent-columns, narrative murals, and columnar reliefs, and a late phase of ornate narrative reliefs upon the walls of buildings with battered bases and complex mouldings. Each of the three phases lasted about a century, and the key buildings are as follows.

- 1. The Caracol includes Puuc Maya elements in its substructure, and it is probably the oldest edifice in the Toltec style (Figure 56). The small inner Castillo pyramid belongs to the same period as the cylindrical Caracol, together with the original west colonnade 6 of which the foundations mirror the orientation of the Castillo.
- 2. The pyramid of the Chacmool is buried inside the Warriors platform (Figure 58). Its terrace profiling is identical with that of the outer shell of the Castillo. This profile resembles that of the platforms at Monte Alban (Plate 46), with the Petén trait of sloping faces. The Temple of the Warriors in turn enfolds the Chacmool Temple upon a platform with terrace profiles recalling those of Teotihuacán (Figure 4). No great interval separates the Chacmool Temple from the Warriors.

3. The main ball-court buildings (Figure 60) have not been finally keyed into the sequence, but such details as profiling and the rich repertory of figural reliefs make it likely that the north and south temples, as well as the lower chamber of the Temple of the Jaguars, are coeval with the Mercado (Figure 59).

The close resemblance between some of the buildings at Chichén Itza and those of Tula in the Mexican highland was first noted by Désiré Charnay about 1880, after he had visited both sites.8 Charnay's observations were finally confirmed in 1940, when the Mexican government began excavations at Tula. All students now accept the thesis that Nahua-speaking Toltecs of highland origin lived as masters at Chichén Itza, and that the evidence of their presence appears not only in representations of warriors, priests, and gods of non-Maya origin, but also in the use of serpent-columns, Atlantean columns, colonnaded edifices several ranks deep, battered wall bases, crenellated roofs outlined by carved emblems called *adornos*, serpent balustrades, recumbent human figures called Chacmools, incense burners portraying the Mexican rain god (Tlaloc), and narrative relief panels set in plain wall surfaces.9

A question concerning the direction of these influences is relevant. The excavations at Tula uncovered only the forms which characterize the second and third phases of

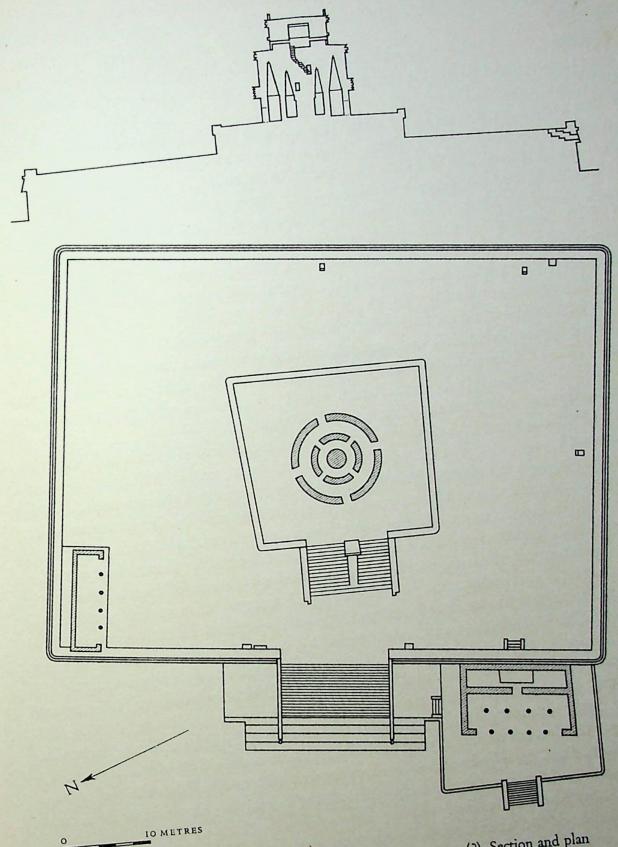


Figure 56. Chichén Itza, Caracol, eleventh century (?). Section and plan

Toltec ascendancy at Chichén Itza. The north pyramid (Plate 8B) and colonnade at Tula resemble the Temple of the Warriors; another building encloses a colonnaded courtyard like the Mercado. Chacmool (Plate 11B) as well as serpent figures and Atlantean columns (Plate 9) have also been found, but there is nothing at Tula corresponding to the first periods of Toltec art at Chichén. Tula therefore suggests a colonial outpost of Chichén rather than the reverse.

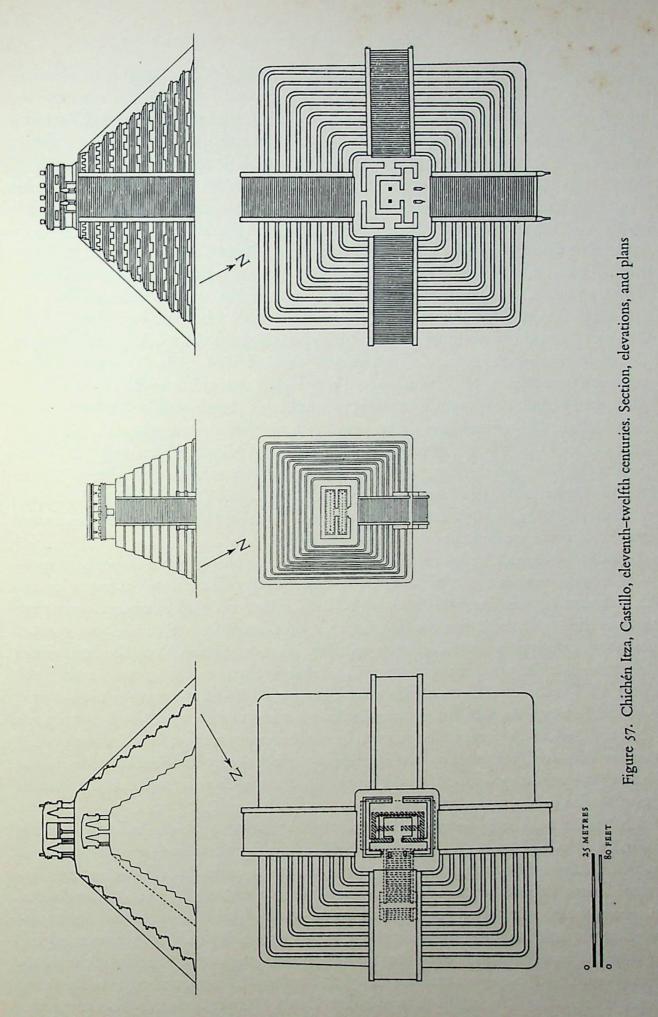
The conventional view today is still that an alien art was imposed upon the Maya artisans of Chichén Itza. <sup>10</sup> However, the formative stages of that art are lacking at Tula. They are fully accounted for only at Chichén. At Chichén, alien rulers brought ideas rather than objects and artisans and eventually acquired an art from their Maya subjects (cf. p. 188). Thus Mexican ideas, clothed in Maya forms, were eventually implanted at Tula. The principal Toltec forms were temples of circular plan (Figure 56), and feathered serpents. Both relate to the cult of Quetzalcoatl, whose Nahua name in Maya became Kukulcan, signifying the feathered serpent, a wind god of vegetation and rain worshipped in round temples. <sup>11</sup>

In the Mexican highlands, feathered serpent forms appeared at Teotihuacán long before their Toltec revival. The interpenetration of Mexican ideas and Maya forms is at least as old as the Early Classic art of Kaminaljuyú. At Xochicalco, the Late Classic investiture of Mexican symbols with Maya figural forms was another forerunner of the Toltec Maya union of highland symbol and lowland art.

The oldest and the most original manifestation of the cult of Quetzalcoatl-Kukulcan at Chichén appears to be the Caracol. Its cylindrical form, with double annular vaults and a winding stair in the upper storey (Figure 56), may represent the conch shell which was one of the attributes of Quetzalcoatl in his aspect as wind god. In the upper storey radial shafts emerge from the centre at angles that may have marked transit points in the observation of the sun and stars.<sup>12</sup> The ornament retains strong Puuc characteristics, especially in four serpent-mask panels above each doorway, made of mosaic elements in the technique of that period. Also in the Puuc style is the magnificent atadura moulding which marks the annular vault impost levels. It is a five-part moulding, unique in Maya architecture, made of deeply tenoned stones scaled to the exceptional size of the ring vaults. The outer vault circle rises more than 30 feet, the tallest of all Maya vaults.

Several campaigns of construction are evident. The primary platform, on a square plan, is the oldest element. The buried cylindrical base was next, followed by the construction of the secondary platform which enfolds the cylindrical base. Then the visible cylinder of the Caracol was built, with its double annular vault.<sup>13</sup> The west stair attained its present monumental size by the addition of serpent balustrades. Thus the conception of the Caracol is Mexican, but the technique and the governing forms of vaulted construction show Maya derivation.

The Castillo substructure with its nine stages is a much smaller pyramid than its outer shell, measuring only 32 m. (105 feet) on each side, as against 58-9 m. (190-5 feet) for the outer case, and 17 m. (56 feet) in height instead of 24 m. (79 feet). Like most pyramidal platforms of the Classic era, it had only one stairway. The outer platform, resembling the oldest pre-Classic pyramid at Uaxactún (E VII sub), was built with four



flights of stairs facing the cardinal points, upon a plan like the Maya sign for zero (Figure 57). The profiles of the inner temple, like those of the Caracol, are closer to Puuc than to fully developed Toltec monuments: indeed the impost and cornice mouldings evoke Río Bec models of an early Late Classic date (e.g. Xpuhil, Structure 1; Figure 44). In the upper façade of the little twin-chambered temple are relief figures of jaguars in profile in a procession underneath a series of round Mexican shields bearing heart-shaped designs. This whole ornamental programme seems hesitant and experimental, as if the sculptors were attempting to reproduce the forms from verbal descriptions rather than from visible models. No definite evidence fixes the chronological relationship between the Castillo substructure and the Caracol; both are close to the Puuc period, and the Caracol probably had a longer building history than the Castillo.

The mouldings of the Castillo and of the Chacmool platform buried inside the Warriors' Pyramid are so much alike that they may both be the work of one designer (Figure 58). In addition they recall the panelled friezes of Monte Alban, with salient and recessed alternations of plane which adorn the sloping terrace faces like fringed headbands, secured upon each talus by an upper moulding of simple profile (Plate 46). As at Monte Alban, the device stresses the verticals in a horizontal system. But at Chichén, the sloping terrace faces are an innovation never attempted at Monte Alban. Another refinement at the Castillo is the changing scale of the panelled friezes in every stage (Figure 57). All stages have eight salient panels on every façade, but the topmost ones are only about one-fifth the width of those at ground level. The effect of perspective diminution greatly enlarges our illusion of the size of the edifice.

The outer Castillo temple comprises four chambers, in an ingenious disposition comparable to the annular vaults of the Caracol. The doorway of the north entrance chamber is flanked by paired serpent-columns; behind it is the cella with two piers supporting three corbel-vaults; and surrounding the cella on three sides are continuous vaulted chambers, opening by centred doorways to east, west, and south. Both the temple and the pyramidal platform are more complicated designs than the Chacmool Temple and Pyramid. The forms of the two edifices are closely related – for example in the battered bases of the temple façades, and the panelled friezes and rounded corners of the platforms – but the Castillo appears in every way to be more advanced, more highly developed. Perhaps fifty years separate the two designs; surely not more, and probably less, if one be guided by analogy concerning the rate of change in other architectural schemes of this magnitude (e.g. Gothic cathedrals).

The Chacmool Temple was eventually discarded, together with its platform, by being buried within the base of the Temple of the Warriors. 15 At that time, the platform was judged inadequate, and its profiles were replaced by an entirely different system (discussed below). The Chacmool Temple was two-chambered, with each chamber divided in two columnar ranges supporting twin corbel-vaults. This scheme was an improvement on the simple temple in the Castillo substructure, and it was later greatly enlarged, by double files of piers in each of the two chambers on top of the Temple of the Warriors (Figure 58). These piers number twelve in the west chamber, and eight in the inner throne-room. The dense supports in the west chamber give it character as an anteroom

or vestibule, and the wider intervals in the throne-room confirm it as a hall of audience and as a seat of authority.

In the Temple of the Warriors there is a remarkable change of style in the profiles of the platform. The four terraces no longer resemble Monte Alban; they are more like Teotihuacán, with a vertical framed panel in relief surmounting an inclined base. It is as

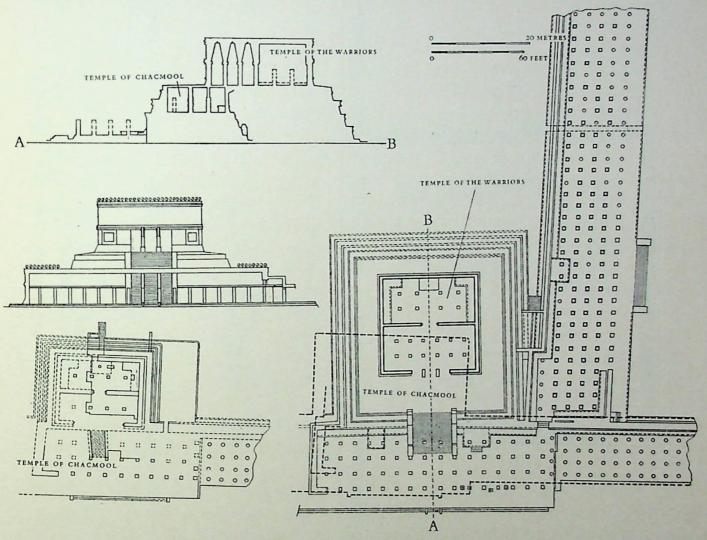
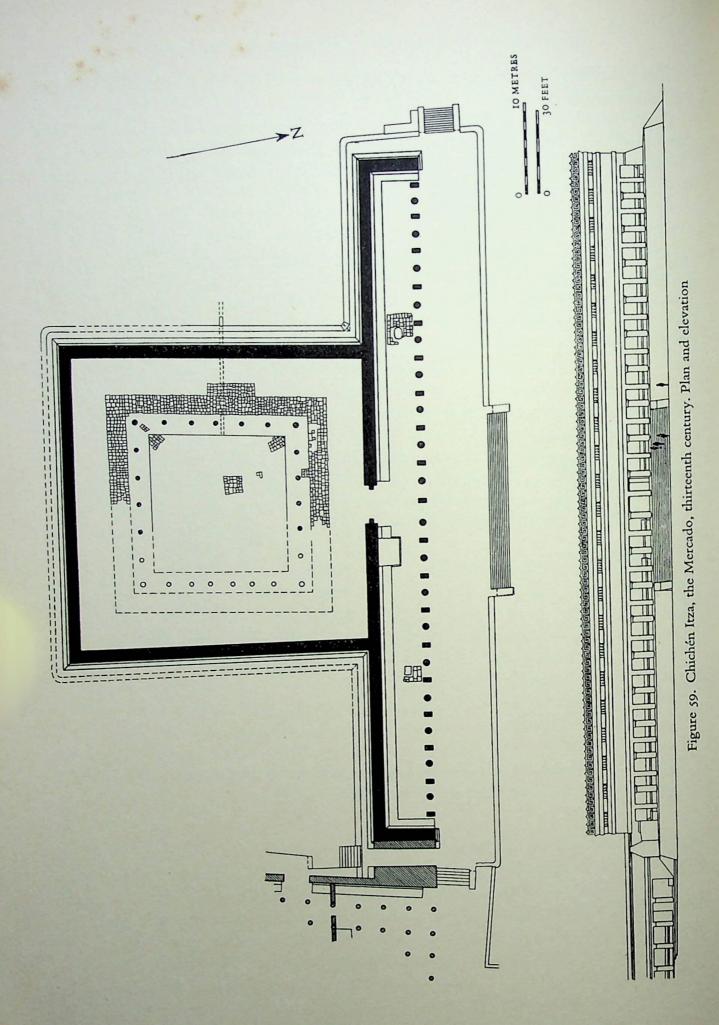


Figure 58. Chichén Itza, Temple of the Warriors (twelfth century), containing Chacmool Temple in platform. Sections and plans

if the architects of Chichén were searching for good historical models in an eclectic frame of mind, casting about among highland examples of five hundred to a thousand years earlier. The proportions of the platform stages of the Temple of the Warriors are nevertheless awkward. The relief panels ride like cornices upon disproportionately large sloping base planes (Plate 99A); the effect is papery rather than grandiose, and it is weakened by the effort to make inconsistent systems cohere. How much time elapsed between the building of the Chacmool and the enfolding Warriors? Probably not less than two generations, or fifty years, if we may be guided by intuition about the obsolescence of building fashions.



Vast vaulted colonnades form a pattern of enclosures along the eastern boundary of the Castillo court (Figure 55). The range facing the eastern façade of the Castillo is the oldest, antedating the platforms both of the Chacmool and the Warriors. Its northern end originally projected westward into the Castillo court at the north-west corner of what is now the Warriors' Pyramid. This portion was replaced first by a demolished north-west colonnade associated with the Chacmool platform, and finally by the present colonnade, which forms a vaulted vestibule to the Warriors' Pyramid.16 The southern end of this original west colonnade has not been excavated, but it was probably coeval with the substructure of the Castillo because of the exact parallelism between the orientation of the colonnade and the pyramid. In its pristine form, the west colonnade defined a wide, shallow court at the eastern foot of the Castillo. It was four rows deep, and its southern extension was vaulted with low, flat-angled corbel-vaults, with overhangs of a slope about 50-55 degrees. The columns were all cylindrical. In the Chacmool rebuilding of the colonnade, square piers were substituted, and these were repeated in the final colonnade of the Warriors. The north colonnade post-dates the platform of the Warriors, and it has five rows of supports, of which the southern or outermost are square piers, and all the others are columns. 17

The southernmost element of the colonnaded group is the edifice called the Mercado (Figure 59), of which a small replica exists at Tula. The Mercado is given the same date as the Temple of the Jaguars because of spool ornaments in the upper façades and the wide, deep mouldings. The spools of the Mercado so closely resemble those of the Temple of the Jaguars that many were used in the restoration of the ball-court building. It is likely that the Court of the Thousand Columns was a market place with many little constructions like stalls and booths in north-south rows. The Mercado may have been a tribunal, built after the market court had been paved with red-painted stucco. In the façade, piers and columns alternate to vary the otherwise monotonous effect of the thirty-six intercolumniations. This gallery is like a stoa prefixed to a Roman atrium house.

The dating of the main ball-court group (Figure 60) is still uncertain. The court has an unusual profile with vertical playing-faces, like the Late Classic ball-court at Edzná in western Yucatán. The north and south ends are closed by temple platforms, and the east mound has two temples upon upper (Plate 93A, Figure 60) and lower levels at the southern end. The profiles of these temples and their low relief carvings are the most sumptuous at Chichén. Thompson, Lothrop, and Proskouriakoff believe the ball-court style to be early, coeval with the substructure of the Castillo, because the correlation they favour between Maya and Christian chronologies (Goodman-Thompson-Martínez) leaves no great gap between Classic Maya and Toltec Maya art. They regard the Toltec Maya, Puuc-Chenes, and Petén-Usumacinta styles as all roughly contemporaneous, falling in the opening generations of Toltec ascendancy at Chichén Itza. Lothrop and Proskouriakoff tend to bunch the styles together about the eleventh century; Spinden, whose lead is here followed, spreads out the Late Petén-Usumacinta, the Puuc-Chenes, and the Toltec Maya styles over a span of 600 years. The radiocarbon measurements of Classic and post-Toltec works support Spinden's correlation, allowing at least three

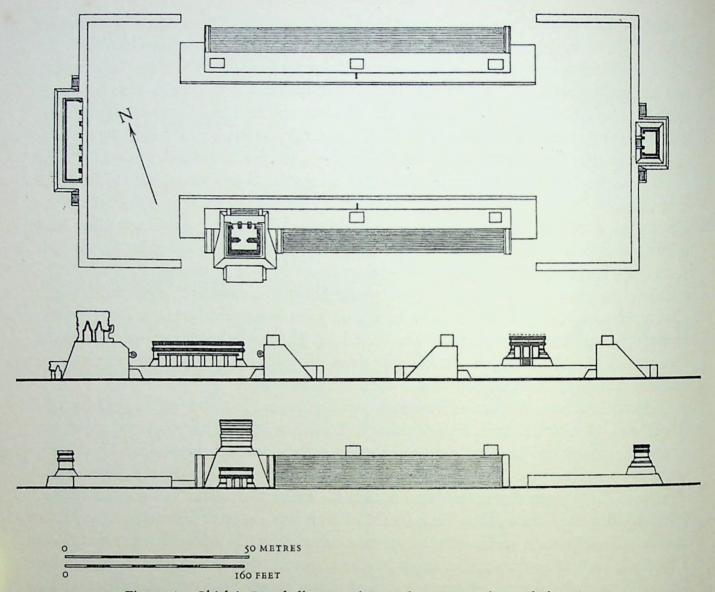


Figure 60. Chichén Itza, ball-court, thirteenth century. Plan and elevations

centuries to separate Toltec ascendancy from the close of the Petén-Usumacinta Classic style. This, however leaves the resemblance of many Toltec Maya forms to Classic Maya relief sculpture unexplained. Nothing like these forms appears in the Puuc-Chenes style, and Lothrop quite reasonably objects to Spinden's explanation as archaism. To this question we shall return when discussing the sculpture of Chichén Itza.

If we confine our attention solely to architectural forms, it is obvious that the ball-court buildings (Figure 60) are later than the Court of the Thousand Columns, because their profiles most closely resemble those of the Mercado (Figure 59), which stands on top of the unbroken courtyard flooring. The date of this courtyard floor, in turn, is presumably earlier than that of the north colonnade, which post-dates the Temple of the Warriors. If this sequence is tenable, then the ball-court buildings post-date the Warriors group, and we are concerned with a renaissance rather than with coeval Classic and Toltec styles, as the workers of the Carnegie Institution have supposed.

The actual chronological sequence of the main ball-court buildings is fairly clear.<sup>21</sup> Oldest is the lower Temple of the Jaguars, facing east (Figure 66); then follow the

parallel playing faces, the south and north temples, and finally the upper Temple of the Jaguars (Plate 93A), which faces west. The façade of the lower Temple of the Jaguars (Maudslay's Temple E) resembles the substructure of the Castillo, and it probably antedates the present ball-court. The long east mound eventually incorporated this small, old-fashioned temple, which was modernized by the addition of sloping exterior wall-bases north and south and by the inside enrichment of narrative reliefs. This modernization occurred when the sloping benches were carved in the ball-court proper.

Excluding the lower temple shell, we may suppose that the entire campaign of building the ball-court occurred in the thirteenth century, not long before the Toltec collapse and dispersal. Of the same general period is the Platform of the Eagles (Plate 93B), a low edifice between the ball-court and the Castillo. It is related to the ball-court buildings by mouldings and relief carvings. The *tzompantli* (skull-rack) rests upon the latest plaza floor,<sup>22</sup> so that it can be dated, like the Mercado, later than the construction of the colonnades, and together with the ball-court buildings, that is in the thirteenth century.

All these edifices of the ball-court period have intricate profiles secured by compounding the traditional Maya atadura mouldings with foreign proportions and heavy members. The unified door-frames embrace several voids and display panelled exterior compartments in several planes of relief. The new silhouette is absent in the lower temple, but fully present in the upper Temple of the Jaguars (Plate 93A). Instead of the two horizontal façade zones of Maya tradition, there are four. An uppermost serpent frieze and a lower tiger frieze divide the upper façade. The lower bearing wall again is divided in two, with a sloping base beneath an upright wall-portion. This is panelled in several planes of relief recalling the salient and receding portions of the Castillo terracing, although here the panelling is vertical rather than inclined. Almost identical is the profile of the gallery of the Mercado (Figure 59), with two sloping-base portions of different inclination, and a double division of the upper façade above impost level. Another variant in the Platform of the Eagles, which Bishop Landa described in the sixteenth century as a 'theatre', exploits even more boldly the shadowed overhangs in the ascending sequence of inclined base, vertical in-and-out panels, and overhanging cornice (Plate 93B).23

We have now examined the main sequence. Building at Chichén Itza expanded northward in the eleventh century with the Caracol, the substructure of the Castillo, and the west colonnade. In the twelfth century, we have supposed an eastern extension in the Court of the Thousand Columns, including the construction of the Temple of the Warriors together with the slightly older 'fossil' temple within the Chacmool. In the thirteenth century the main ball-court marked a western extension, and the Platform of the Cones arose in line with the paved road to the Well of Sacrifice at the northernmost boundary. It finally became a cruciform site with the north-south axis between the Nunnery and the northernmost cenote, and the east-west axis running from the main ball-court across the square of the Castillo and the Court of the Thousand Columns. The new elements were the colonnaded hall, with the vault overhangs carried upon wooden lintels, the peristyle atrium, as at the Mercado, and the covered stairways rising

to temple level through the colonnade screening the platform base. With these innovations, the architects of the Toltec period at Chichén achieved a new spatial order, initiating the possibilities of interior design upon a scale never available to their Classic predecessors.

Chichén Itza, like Uxmal three centuries earlier, abruptly ceased to be the artistic metropolis of Yucatán after about three centuries of intensive activity. Mayapán, 25 miles south of Mérida, became the new capital. The site has lately been systematically excavated. Its position as the successor to Chichén Itza, in the period from c. 1200 to c. 1450, is now certain, although the interpretation of many jumbled bits of historical tradition, as preserved in Maya records, is still far from satisfactory. The excavations yield overwhelming proof that Mayapán sheltered a society in decline. It was a walled city enclosing about 1½ square miles and contained over four thousand structures, most of which were dwellings. Only a few large edifices served ritual needs. The construction is shoddy and the plan disorderly, showing no sense of the ample spaces which

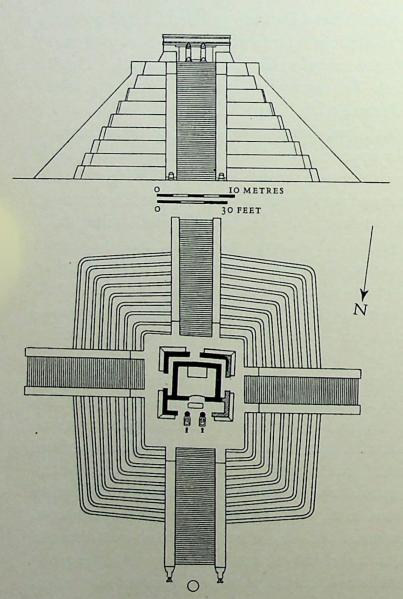


Figure 61. Mayapán, Castillo, thirteenth century. Elevation and plan

characterized older Maya architecture. Innumerable small private shrines attest the disintegration of public worship and of the theocracy. The defensive city wall records a transformation in the concept of urban life, from the dispersed population of farmers who assembled periodically at a noble ritual centre, to a warren-like cluster of dwellings meanly crowded within walled defences. Its Castillo (Figure 61) is a literal copy of the one at Chichén, but of shrunken size, about half as big, with the serpent heads of columns and balustrades executed in perishable stucco. The colonnaded halls were usually not vaulted, but roofed with beams and mortar.

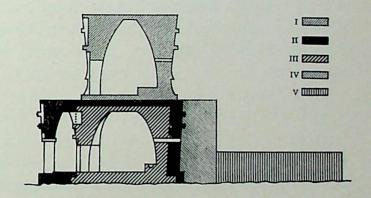
## The East Coast

The architecture of the East Coast of Yucatán, from Cape Catoche south to Espiritu Santo Bay, shows two main periods.<sup>25</sup> The older sites, represented by Cobá, are of the Classic Petén type. The later group hugs the coast, and there are build-

ings of the same period on the off-shore islands in the Caribbean Sea. Many coastal buildings have trapezoidal doorways and a silhouette with walls leaning outward in an exaggerated negative batter (Figure 62). These traits probably derive from the Puuc, and from Uxmal in particular, where, as we have seen, architectural activity ceased at about the time of the rise of Toltec Chichén Itza. No negative batter has been observed at Toltec Chichén. Lothrop's supposition that the main part of Tulum was built early in the Toltec period <sup>26</sup> is therefore justified, although his dating in the thirteenth and fourteenth centuries is too late. The lack of post-Classic building activity in the Puuc proper suggested to Brainerd that the Toltecs forcibly expelled the Puuc inhabitants from their arid home. <sup>27</sup> If the Puuc people migrated to the East Coast, as the architectural habits of that region suggest, the stylistic sequence there would contain Classic, Puuc, Toltec, and Mayapán phases, with the Puuc intrusion occurring about the tenth or eleventh centuries, the Toltec style in the twelfth and thirteenth centuries, and Mayapán traits appearing after the thirteenth century. Such a sequence corresponds to the new chronology gained by excavations at Chichén and Mayapán. <sup>28</sup> Classic edifices are marked

by thick walls in true plumb, with roof-combs and simple rectangular mouldings. Puuc-style buildings have marked negative batter without the sloping bases characteristic of Toltec influence. Recessed lintels and columnar doorways are present in both the Puuc and the Toltec phases.<sup>29</sup> Of Toltec derivation are the serpent-columns of the Castillo at Tulum, as well as the sloping bases and the prolific use of overdoor niches. The sculpture in stucco, finally, recalls the workmanship of Mayapán.

The complete sequence can be traced among the many re-buildings of an edifice like the Temple of the Frescoes at Tulum (Figure 62). The initial Classic vaulted shrine (A) was encased in a larger building (B) with columnar façades and negative batter in the Puuc style. Finally this platform was augmented by a second-storey addition to the upper shrine. Its negative batter, as at Cancuén near by (Structure 4), is enriched by a sloping base of undercut profile.



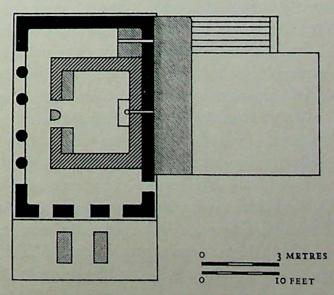


Figure 62. Tulum, Temple of the Frescoes, Classic and later periods. Section and plan

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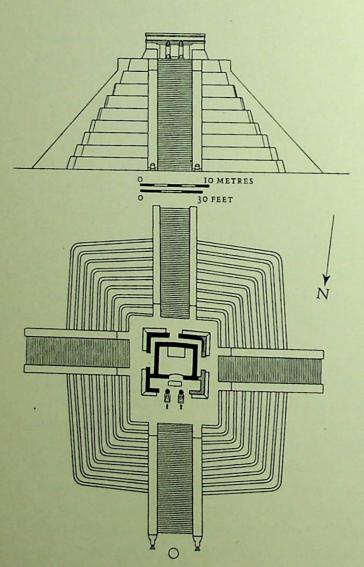


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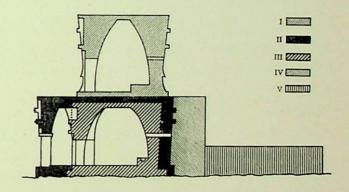
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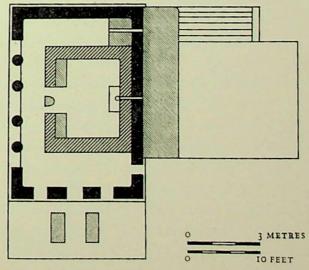


Figure 62. Tulum, Temple of the Frescoes, Classic and later periods. Section and plan

Without the undercutting, such bases are familiar at Chichén and Mayapán, permitting a date in Toltec Maya times or later. Beam-and-mortar roofs may have been in current use at all periods (Figure 30G), and their popularity may account for the prevalence of compressed or contracted upper zones of façades, which are often only one-third as high, or less, than the bearing walls.<sup>30</sup> Well-preserved examples are the halls of the Castillo and Structure 25 at Tulum.

## The Problem of Tula

The thesis of Toltec influence from Tula on the architecture of Yucatán weakens when we look for elements occurring solely at Tula prior to the Toltec intrusion at Chichén Itza. Among architectural forms round temples (Calixtlahuaca; Plate 13A) and sloping basal zones (Mitla; Plate 51B) emerge as possible Mexican contributions to Maya practice. Colonnaded doorways with Atlantean columns and effigy supports are commonly ascribed to Toltec influence, but there is abundant precedent for them in Classic Maya architecture. As to colonnaded interiors, the Late Classic example at Mitla (Figure 23) is probably more important than the colonnades at Tula, for which it is difficult to prove an early date. We have noted in the Toltec architecture of Chichén Itza strong resemblances to the panelled terracing of Monte Alban (Castillo) and Teotihuacán (Pyramid of the Warriors). Toltec Maya architecture now appears far more cosmopolitan and eclectic than the traditional comparison with Tula alone would allow.

## SCULPTURE

Toltec work is commonly regarded as inaugurating 'a new era in art ... primarily secular and dramatic ...', so closely allied to Tula that it is not usually considered part of the Maya development.<sup>31</sup> But we have seen in architecture that the Toltec intruders exported more from Yucatán than they brought into it, and when we assess the sculpture for proof of foreign influence, the balance again favours the Maya, with Chichén Itza clearly marked as the originating centre rather than as a receiving terminal. The Toltec Maya repertory at Chichén comprises many forms and techniques of which we have no trace at Tula, such as repoussé goldwork (Plate 102A) and narrative sculpture in relief with the portrayal of landscape (Figure 67). At Tula, on the other hand, the only sculptural forms with no exact equivalent at Chichén Itza are the colossal Atlantean supports (Plate 9), which are perhaps only amplifications of very common smaller Atlantean figures at Chichén (Plates 96–8).

As with the architecture, the impact of an alien ethnic group upon expression cannot be denied: the aggressive new expression, however, was articulated in traditional Maya elements of form, and it eventually returned, in its Yucatecan garb, to the Mexican highland. Thus the serpent-columns of Chichén Itza are prefigured in Late Classic Maya sculpture by effigy columns like those at Oxkintok.<sup>32</sup> The warrior figures of Toltec Chichén have many precedents in the Usumacinta region, and at Bonampak, Piedras Negras, and Yaxchilán. The reclining Chacmool figures are numerous at Chichén, but

only one example was excavated at Tula. Human sacrifice by heart removal is figured in reliefs at Piedras Negras, and possibly on the walls of Bonampak, so that Tula Toltec priority here too is doubtful.

The chronology of Toltec Chichén sculpture is as uncertain as that of architecture, because any seriation of the sculpture depends upon architectural chronology.<sup>33</sup> Our sequence places the substructure of the Castillo and the Caracol in the early phase; the Pyramid of the Warriors and the great colonnades in the middle phase; and the main ball-court in the final phase, the three phases embracing about a century each, from c. 900 to the thirteenth century.

By the orthodox correlation between Maya and Christian time (Goodman-Thompson-Martínez), these events at Chichén overlap with Late Classic art in other regions. In the chronology we are using (Spinden and radiocarbon), an ample Maya tradition of several centuries underlies many forms of the Toltec Maya style at Chichén. Its history contains a renaissance of Classic Maya art as well as an eclectic use of alien themes, such as the terrace profiles and pyramidal plans which echo many older Petén Maya, Monte Alban, and Teotihuacán forms. Toltec Chichén re-states entire traditions in Mesoamerican antiquity. Chichén is like Rome, but Tula is like a frontier garrison, on the very edge of the civilized world of town-dwellers, upon the *limes* where the barbarians roam, taking its art only from the middle phase of the metropolitan development, and missing the late, splendid renaissance of the figural style.

We have seen that the extension of the corbel-vault on colonnaded ranges of supports gave its characteristic spaces to the architecture of Chichén Itza under Toltec domination. An analogous technical device allowed the Toltec Maya sculptors to enlarge their field and to achieve the ample narrative reliefs of the middle and late periods at Chichén. This device was the simple one of extending the compositional field beyond the limits of a single block of stone (Plates 99B and 101). The Classic stela motif was almost invariably confined by the single block or slab of stone; at Chichén, however, the sculptural unit extends over several blocks of the masonry veneer. This practice must have been inherited from Late Classic architectural practice in western Yucatán. A few examples of sculpture along the masonry veneer are recorded from the Puuc district.34 Two panels at Santa Rosa Xtampak have Classic motifs extending over many rectangular veneer blocks. At Xcalumkin there are door jambs like those of Chichén Itza, composed of several drums, and bearing Classic single-figure motifs of the most ancient Maya tradition. Proskouriakoff, with the aid of her trait graphs, dates both examples to about 470-90 (9.15.0.0.0-9.16.0.0.0). These panels of sculpture in pictorial extension require continuous planes rather than plastic masses, being pictures carved in two planes painted with brilliant tones of local colour.

Before we treat these reliefs in detail, the main types of free-standing sculpture require discussion.

# Full-Round Figures

There are few full-round figures; the Maya peoples must have been indifferent to them. Their Olmec predecessors in southern Veracruz and their neighbours to the east and

south all produced important free-standing works, but the Classic Maya themselves tended always to convert plastic forms into scenes of shallow relief, under strong tectonic regulation in the flat planes of stelae, wall-panels, and lintels. In the Puuc and Toltec periods, stone seats carved to resemble jaguars were not uncommon: a celebrated example is the red throne inlaid with spots of jade, discovered in the chamber of the substructure of the Castillo (Plate 95). This Toltec Maya version is chunky and awkward in its compromise between instrumental form as a legged seat, and anatomical form in the curving head-planes and leg muscles. The type is itself of Classic origin. A two-headed jaguar seat was found at Uxmal; carved representations occur at Tikal, Piedras Negras, Palenque, and Xultún; and painted versions decorated the cella of the Chacmool Temple at Chichén.

The many small caryatid figures supporting tables or benches (Plates 96–8) perhaps relate to older Maya traditions of sky-bearing personages represented in relief.<sup>35</sup> The oldest caryatids at Chichén Itza are probably in the Temple of the Tables adjoining the Pyramid of the Warriors on the north (Plate 96A). This temple is coeval with the buried Chacmool Temple, which also has columnar reliefs and serpent-columns. Its caryatid table may be taken as part of the original design. The figures are like inverted cones, with features lightly carved in the frontal plane. In the neighbouring Temple of the Warriors, the stones are T-shaped, with more fully articulated arms and legs (Plate 96B). The best workmanship is seen in the Atlantean figures of the upper Temple of the Jaguars (Plate 97). The conical shape seems old-fashioned, but the surfaces are articulated and differentiated in great detail, with images comparable to those of the cella doorway discussed below. In the south-east colonnade (Plate 98, above) are kneeling caryatids (Room C). In Structure 3 C 6 the Atlantean columns of life-size male figures are composed of three drums, and may be prototypes for the colossal caryatids at Tula (Plate 98, below).

Quite outside the Maya tradition are the Chacmool figures at Chichén Itza, fourteen in all, varying from colossal simple forms (Plate 99A) to small and fussy ones. These reclining male figures lie athwart an entrance axis and turn their heads out to the court or plaza, holding on the abdomen a plate or vessel clasped in both hands. The origin of the type is unknown, but it accompanies the Toltec dispersal (Plate 11B), appearing in Michoacán and in Costa Rica and Veracruz, possibly in connexion with ritual drunkenness. Crouching figures of stone, intended to hold standards or banners upright on the terrace edges, are also common at Chichén, and there is no Maya precedent for them.

The paired serpent-columns of the Castillo, the Temple of the Warriors, the High Priest's Grave, and the Temple of the Jaguars are like effigy columns of the Puuc period. The specific image of the feathered serpent is rare in Classic Maya art. It probably represents central Mexican highland traditions of rain and vegetation symbolism. Two structural variants occur. In the older one (Castillo, Figure 57, and Chacmool Temples), the serpent-head is the bottom drum of the round column. The others (Warriors, Figure 58, and High Priest) have square piers with the heads carved on separate adjoining blocks. The latter version is more practical and economical, and it is also less impressive. At the High Priest's Grave, the pier drums were re-cut with feathers and scales, replacing older panelled figures like those of the piers in the Chacmool Temple or the Temple of the

Tables.<sup>37</sup> The older cylindrical version re-appears in the doorway of the late Temple of the Jaguars (Plate 93A), where other details confirm an impression that these columns, of which the heads are the largest single carved stones at Chichén, weighing 7½ tons each, were re-used, after having been part of an older, now vanished structure.

The convergence of the serpent-column and a more conventional prototype is apparent in the vestigial capitals retained between support and lintel. These capital blocks provide the angular passage from shaft to cornice-block, with its rattlesnake's-tail motif. The oldest examples are the buried blocks with painting intact from the 'fossil' Chacmool Temple, and the closely similar capitals in the Castillo Temple. Both are carved with Atlantean reliefs of shell-, spider-, and turtleshell-men on three sides. The fourth side, facing the exterior, bears feathers. The Atlantean theme repeats in the membering of the supports in the cella interior. At the Temple of the Warriors, it is vestigial, appearing on only two sides of the topmost drum (Plate 94). In the Temple of the Jaguars, the theme disappeared altogether, in favour of a lintel drum carved with feathers and

scales (Plate 93A), making no pretence of conformity with the cella pilasters. The serpent-heads, finally, differ according to their context on piers or columns. Columnar heads are merely cubical, with jaws open less wide than the gaping mandibles of the heads joined to square piers. A difference of mythographic species perhaps appears in the horned heads at the entrance to the cella of the Temple of the Warriors (Plate 94).

# Processional Reliefs

At Chichén Itza, all life obeyed processional arrangements. Moving among the ruins, one is surrounded by solemn images in profile, carved in shallow relief and shown striding towards the cardinal directions, each imprisoned upon a column face (Plate 101) or along the sloping dais benches (Plate 99B), or upon the jambs and walls of the temple cellae (Figure 66). It is as if all the stela figures of the Early Classic lake cities had convened, transformed into Toltec Maya priests, warriors, or god-impersonators, and even more rigidly governed by the architectural setting.

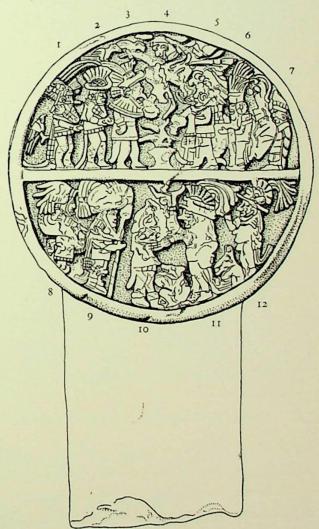


Figure 63. Chichén Itza, Caracol platform, processional disk relief with Maya and Toltec figures, tenth century

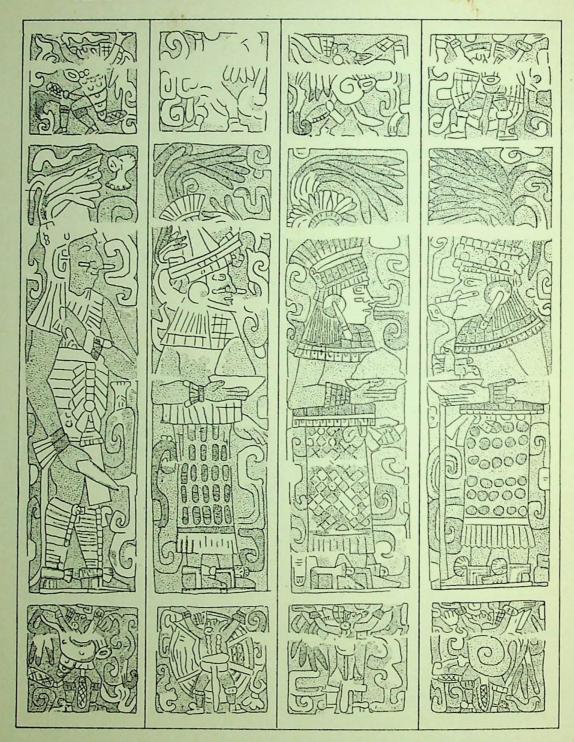


Figure 64. Chichén Itza, column reliefs, eleventh century. (A) Chacmool Temple

Three principal groups are evident – early, middle, and late – based upon our architectural sequence. The early reliefs (tenth century) include the circular stone from the Caracol (Figure 63), which Lothrop also regards as an Early Toltec work.<sup>38</sup> Upper and lower registers represent convergent files of figures, with proportions stunted at the ends of the semicircular fields. Both Maya and Toltec personages are present: the scenes may show the confrontations of four groups of Maya and Toltec allies.<sup>39</sup> Thus the figures here numbered as 1, 5, and 8 are surely Toltec, because of the nose-stick (No. 1), and the feathered-serpent coils (Nos 5, 8). Probably Maya by dress, towering head-gear, and

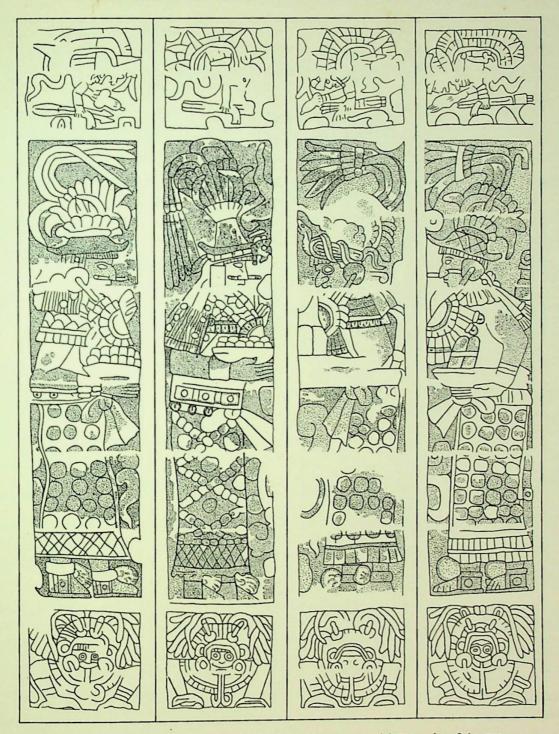


Figure 64. Chichén Itza, column reliefs, eleventh century. (B) Temple of the Warriors

lance are Nos 3, 6, 7, 9, and 11. The style of carving allows little space between figures, and the effect is crowded and awkward.

The reliefs of the middle period (eleventh century) fall into two groups of columnar panels: an initial phase is represented by columns in the Chacmool Temple, which have human caryatids on the bases and capitals (Figure 64A); the second phase, in the colonnades and on the Temple of the Warriors, has bases with bird-serpent masks framing human faces, and sun-disk deities in the capitals (Figure 64B). Jean Charlot has separated the different sculptors' hands, finding four masters in the north colonnade (Figure 64C),

P



Figure 64. Chichén Itza, column reliefs, eleventh century. (c) North colonnade

and discovering changes between the reliefs of the Chacmool Temple and those of the Temple of the Warriors, such as increasing practicality, secularity, and stereotyping.<sup>40</sup> Also characteristic of sculpture of the middle period are the many stone benches in the temples and colonnades, with processions of figures in profile carved on their sloping faces. These benches recur at Tula, and much later, in more stereotyped forms, at Tenochtitlan.<sup>41</sup> The most elaborate example is in the north colonnade (Plate 99A). On each face, two files of figures converge upon a central sacrificial vessel beneath a cornice of undulant feathered serpents. Most of the processional figures are surrounded by the

standing coils of serpents in S and Z forms. The coarse and spotty surface pattern was probably brought to harmony by the painted stucco coat; it recurs on the panel friezes of the terraces of the Pyramid of the Warriors, where eagles, tigers, and recumbent warriors symbolize the ritual of heart sacrifice.

The twelfth-century reliefs of the late period cluster near the main ball-court, on its playing benches (Figure 65), in the lower Temple of the Jaguars (Figure 66), and on the platforms between the ball-court and the Castillo (Plate 93B). Rich costumes, animated movements, and a variety of curving passages from front to rear planes are the principal traits of this late relief style. The transition from the middle manner is seen in the dais of the Mercado (Plate 99B). The files of prisoners, roped and named, converging upon a central figure beneath a feathered serpent cornice, are like those of the north colonnade, but the rhythmic organization and the variety in surface texture are far more intricate than in the earlier dais. The taste of a new generation of talented sculptors at the main ball-court is present,<sup>42</sup> and the Mercado dais may be one of its earliest expressions.

In the main ball-court, the order of erection, if we reconstruct it by the sculptural evidence, was the following: south temple, playing benches, lower Temple of the Jaguars, north temple, and finally upper Temple of the Jaguars. We place the south temple earliest because its piers resemble those of the Temple of the Warriors, with bird-serpent motifs in the bases (Plate 100A). The ball-court sculptor has obscured the unsightly median line separating the feathers from the paws, by extending the feathers in long curves that unify upper and lower halves of the panel. This kind of compositional improvement marks every production of the designers of the ball-court, who gradually loosened postures and enriched narrative accessories until they attained a completely pictorial manner. Eventually, in the mural decorations of the upper Temple of the Jaguars (Plate 103) and the cella of the Warriors, they dispensed altogether with relief sculpture.

This sequence is admittedly only an approximation on stylistic grounds, without adequate archaeological support. It is nevertheless inherently probable when we concede the status of these craftsmen as members of a renaissance generation, rather than as a generation moving into artistic decadence. The thesis of progressive artistic degeneration has been the orthodox one,<sup>44</sup> i.e. that Maya sculptors close to Classic traditions progressively lost control and skill under Toltec domination. We have reversed the sequence, on the assumption that after the long vacuum during the Puuc period, architects and sculptors studied anew the traditions of Classic Maya sculpture, achieving mastery in the course of several generations, when Toltec Maya art came into being. The main ball-court reliefs are the finest monuments of this sequence.

The two ball-court benches are the largest processional reliefs at Chichén Itza, with scores of figures portrayed almost life-size upon a richly figured ground of Maya serpent and plant forms. The architectural setting, the armour, and the iconography of decapitation all recall Classic Veracruz sculpture of an earlier date (compare Figure 65 and Plate 41). The six panels are nearly identical: in each, two processions converge upon a disk inscribed with a skull. Each panel has fourteen figures in ball-players' costume: the victorious team wear broad mosaic collars, and their leader has decapitated the opposing



Figure 65. Chichén Itza, ball-court bench, east face, processional relief, twelfth century

leader, from whose headless neck six serpents fan out, 45 as on the stela from Aparicio in Veracruz. 46 The attitudes are monotonously regular, varying only in the springiness of the step. Decorative animation and movement appear in the plant and serpent scrolls which fill the ornate ground. The same scene re-appears in the six versions, with eighty-four figures, repeated three times on each bench. The four end panels have cornices of feathered serpents with cylindrical bodies. The west wall panels are more crowded, less well carved, and more shallow in relief, as if so many repetitions had made the carver careless. The most animated stances and the most open ground occur on the northern-most panel of the east wall: unfortunately, many blocks are missing. The south-east panel is more crowded with feathers and serpent scrolls; practically no open ground shows between the figures (Figure 65). On the west wall, the central panel is the most crowded of all, and its relief is the most shallow. This poverty of invention and the limited thematic material suggest that the benches are the work of a generation still sympathetic to the art of the colonnades, yet moving towards a greater pictorial range, increased narrative variety, and more animated movements.

These new objectives are apparent in the multiplication of registers inside the lower Temple of the Jaguars (Figure 66). Six registers, running without pause or interruption at the corners, circle the interior. In the base, five rinceau bands of plant, fish, and bird forms emerge symmetrically from four mask panels. Above, there are five registers. The lowest has a procession of twenty-four lance-bearing nobles in full-dress regalia. The next two registers, of equal width, are slightly narrower, and the top two in the vault overhang are again equal, but narrower than the pair just below. In all four upper registers are warriors armed with bundles of short spears and throwing-sticks (atlatl). In the centre of the top register is a sun-disk of Mexican type. It recurs on the wooden lintels and murals of the upper temple. An effort to interrupt the track-like sequence of the registers appears in the middle of the back wall, where a gigantic feathered serpent breaks through the barrier between second and third registers, as a copula between parallel processional spaces. The quality of the carving is close to that of the benches, but the compositional scheme is more inventive and more animated. For example, the scrolls between figures are upright in the benches, but in the cella of the lower Jaguar Temple they inscribe vigorous curving diagonals as if to mark dance-like motions.



On the North Temple, finally, the band mouldings are suppressed, except to mark the vault overhang and the base. This base, like the one in the lower Temple of the Jaguars, has rinceau bands, with an unprecedented figure in the centre of the north wall: it is a recumbent corpse clothed in a tunic of hexagonal scales. From the abdomen rise two serpent bodies ending at feet and head in serpent jaws in profile.<sup>47</sup> Recumbent bodies also encircle the base of each of the entrance columns beneath a trellis hung with flowers and fruit. This theme of a vine or tree of abundance re-appears upon the stairway balustrades, rooted in a rain-god mask in profile. On the three cella walls, five registers of figures are shown (Figure 67), but they are separated by band mouldings only on the vault overhang.

As in the cella of the lower Jaguar Temple, the scenes in the North Temple turn corners without interruption, in one continuous pictorial space embracing the three walls. The main group consists of three files, converging upon the centre. The lower figures bear arms of darts and throwing-sticks; the central row of seated figures – turbaned on the left, and wearing feather head-dresses on the right – listen to the central figure standing in open serpent jaws. Above, erect warriors converge upon the sun-disk. Speech-scrolls are the principal space-fillers: the whole group is like a three-storeyed dais procession. On the left and right are other scenes. Facing the west, and connecting with figures on the west wall, is a bird-dancer on ground level who dances to the sound of a seated drummer around the corner. The whole west wall is ruled by a seated figure in the upper corner presenting a smaller person to the others for homage. The scene on the east wall also includes groups on the adjoining north wall where two chiefs, seated in conversation inside a house, are meant to preside over the badly damaged scenes on the east. The clearest of these is the lower outer corner, where two upright persons examine a recumbent one.

The perspective throughout is ascending, in the sense that distant spaces are represented as high in the composition, with figures, trees, and scrolls all somewhat garbled and interfering with one another. The intention of the entire room is to portray actual events together with the indications of their symbolic meaning; probably it illustrates an historical account, not unlike the screenfold genealogies of the Mixteca. One scene in the vault overhang, showing a hunter with a blowpipe shooting at birds in a tree, exactly recalls a parallel image in the Bodley manuscript illustrating an event in the life of the

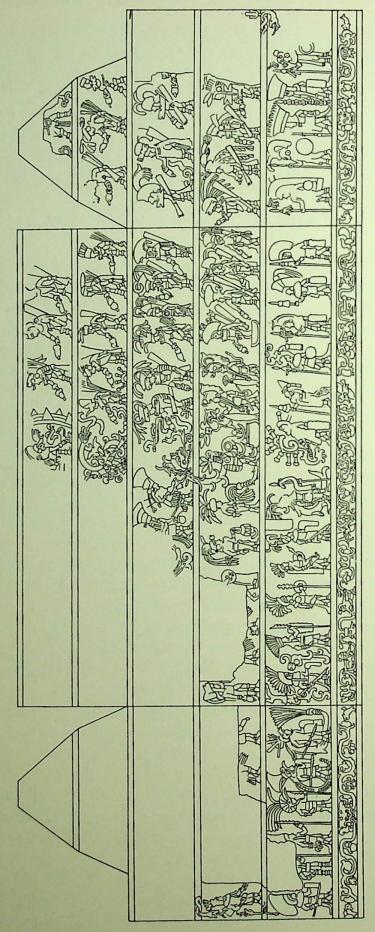


Figure 66. Chichén Itza, lower Temple of the Jaguars, processional reliefs on interior walls, twelfth century

Mixtec hero, Eight Deer (Plate 54A), who lived early in the twelfth century. In these vault scenes the variety and the narrative detail strongly suggest that the model was such a screenfold manuscript. Below the impost, the north wall shows an effort to break away from the conventional setting and to unify larger narrative spaces than the manuscript style permitted. To trace the further developments of this extended narrative space, we must later examine the mural paintings at Chichén Itza.

The pilasters framing the doorways of the upper Temple of the Jaguars (Plate 101) bear figures of warriors whose exposed genitals must have been an affront to the tradi-

tional modesty of the Maya natives of Yucatán. The quality of the carving, nevertheless, is the best at Chichén Itza, with rounded passages and portrait faces of an agreeable degree of finish requiring for appreciation neither stucco coating nor polychromy. The expressive intention is clear: the alien masters are exalted, and native customs and conventions are ignored. This arrogant assertion of foreign manners recurs in the near-by

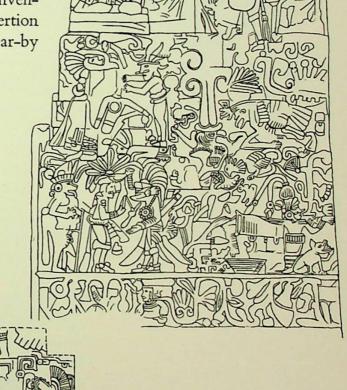


Figure 67. Processional reliefs and narrative scenes from the ball-court of the North Temple, Chichén Itza, thirteenth century

platforms (Plates 93B and 100B) consecrated to the planet Venus (2D4), to the warrior society of the eagles (2D3), and to human sacrifice by decapitation at the *tzompantli* (skull-rack) (2D2). These latter-day monuments are closest to Tula. The late date of the skull-rack (Plate 100B), as in the case of the Mercado, is suggested by construction over the uppermost plaster flooring of the plaza.



Figure 68. Repoussé gold disk (D) with battle scene, from the Well of Sacrifice, Chichén Itza, twelfth-thirteenth centuries. Mexico City, Instituto Nacional de Antropología e Historia

Other examples of Toltec Maya sculpture are the embossed gold disks dredged from the Well of Sacrifice. They are coeval with the sculpture of the main ball-court, and they readily fall into three stylistic groups. Seven of the disks (A-E, I, J) resemble the processional friezes, with several figures of Toltec and Maya warriors occupying an unspecified space within the circular rim (Figure 68); three (F, G, H) have clearly marked ground lines with some indication of pictorial environment and are closest in style to the murals at the Temple of the Warriors or the upper Temple of the Jaguars (Plate

102A); six others (K-P) are more heraldic in design (Figure 69) and can be connected with the jaguar and eagle friezes on the Platform of the Eagles (Plate 93B) and the skull-rack (Plate 100B).

In conformity with the orthodox position that Late Classic and Toltec Maya styles overlapped in time, Lothrop assigned F, G, H, and K-P to the early phase of Toltec Maya history in the tenth century.<sup>49</sup> The opposite hypothesis of a Toltec Maya period



Figure 69. Repoussé gold disk (L) with eagle warrior, from the Well of Sacrifice, Chichén Itza, twelfth-thirteenth centuries. Mexico City, Instituto Nacional de Antropología e Historia

separated from the Classic period by at least three centuries requires another sequence, with the metalworkers improving in draughtsmanship and in technique, until they regained mastery of the long-disused classical vocabulary. Our sequence of processional, pictorial, and heraldic styles may eventually require re-arrangement, but for the present we shall suppose that they spanned the twelfth and thirteenth centuries, on the strength of the parallels with architectural sculpture. Thus in D (Figure 68), the serpent motifs above and below the processional grouping are inexpert and uncertain. In G, the same theme receives an ample development in the space above the right-hand boat (Plate

102A), and in L, this Classic Maya theme is replaced by a Mexican eagle warrior (Figure 69) of the type which adorns the skull-rack. Certainly the marine battle of G is comparable, with its diagonal movements and tilted plane of water, to the sea-coast mural in the Temple of the Warriors (Plate 102B). No hint of this illusion of deep space appears anywhere else in ancient American art: the fresco-painter and the goldsmith probably belonged to the same generation, and there is no evidence that their successors continued this promising line of investigating pictorial space.

### PAINTING

## Murals

At Chichén Itza, narrative scenes covering large walls adorn the shrines of both the upper Temple of the Jaguars, which overlooks the ball-court, and the Temple of the Warriors. All are in extremely bad condition, and the paintings can be studied today only in reproductions. The ball-court frescoes are rhythmic and geometric arrangements of many small figures in dense clusters. The murals of the Warriors' Temple portray landscapes, a village and the seashore, in which scattered groups occupy a pictorial space much deeper than at the ball-court. By our hypothesis, Toltec Maya pictorial space was a gradual achievement. It broke with the schematic and geometric forms of the Puuc period and ended with the art represented by such gold repoussé disks as that of the sea-battle (Plate 102A) and a human sacrifice by heart excision. In this developmental scheme the flatter and more geometric designs at the upper Temple of the Jaguars (Plate 103) antedate the pictures in the Temple of the Warriors (Plate 102B), with their much greater depth in space. They are closer in spirit and in composition to the Bonampak frescoes (Plates 86-90). The landscapes in the Temple of the Warriors bring to mind the strip-like arrangements and the cartographic designs of south Mexican manuscripts (Plate 54B). Since nothing like these small-figure murals was found in the 'fossil' Chacmool Temple,50 buried within the platform of the Temple of the Warriors, their first appearance at the latter can be dated in the twelfth century, near the end of the architectural florescence of the Toltec Maya style at Chichén Itza.

Seven mural fragments decorate the inner chamber of the upper Temple of the Jaguars. Those on the north wall and in the north-eastern corner are completely destroyed, but fragments survive on the eastern, southern, and western walls (diagram, Figure 70). On the east wall (3, 4), two deities and a landscape were interpreted by Seler as a terrestrial paradise.<sup>51</sup> Facing it and on the south walls are battle scenes, showing two armies under a volley of lances (south-west wall, 1); the siege of a town or temple (south wall, 2); and another siege scene (north-west wall, 7). As at Bonampak, many aggressors overcome very few defenders. Upon the stages of a pyramid (south wall, 2) less than ten men receive the violent attack of scores of spearmen and lancers. Over the doorway (8), above the lintel, is a recumbent figure, identical with the relief in the north ball-court temple, from whose belt rise serpents. On the vault overhang above this, a

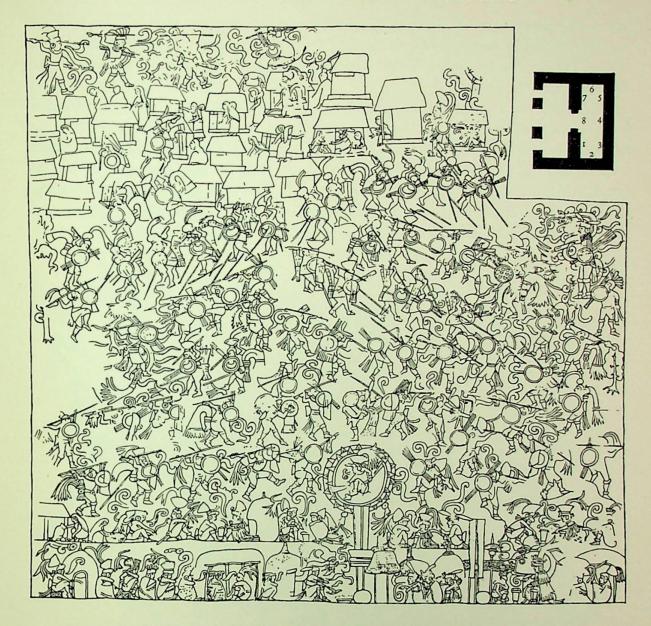


Figure 70. Chichén Itza, upper Temple of the Jaguars, south-west wall, wall painting of a battle scene, thirteenth century. Upper right inset: diagram of murals in cella

human sacrifice by heart excision 52 appears under another badly damaged battle scene. A base zone surrounds the room at floor level, with tendrils enfolding grotesque masks and reclining human beings, as in the lower temple reliefs. One supposes that the warriors and victim of the sacrifice have as their reward the paradise which surrounds the deities on the east wall.

The composition varies from wall to wall: in the best preserved fragment (southwest, 1), about 120 figures are grouped in eleven rows and eleven columns of shifting contours. They make a rhythmic panorama of spear-throwing warriors, whose attitudes in the lower left corner compose a sequence not unlike the frames of a cinematic or stroboscopic action exposure (Figure 70). The same dense composition recurs on the south wall (2), where warriors mounted upon curious siege-towers made of timbers

lashed together in three- and four-storey edifices attack a pyramidal platform (Plate 103).<sup>53</sup> A sun-disk deity presides in the upper right-hand corner. In both scenes the battlefield is confined at top and bottom by rows of houses with seated figures, probably the villages of the fighters.

On the east wall (3-5), the published fragments recall the deep space of the compositions of the Temple of the Warriors, especially in the depiction of trees and rolling terrain. A portion published by Willard as from the east wall <sup>54</sup> shows a score of warriors with shields and throwing-sticks advancing in two files behind the cover of hills to attack a Maya army in the lower portion of the picture. The small-figure convention and the exaggerated contours of the landscape anticipate certain Mexican historical manuscripts, such as Codex Fernández Leal <sup>55</sup> or Codex Xolotl.

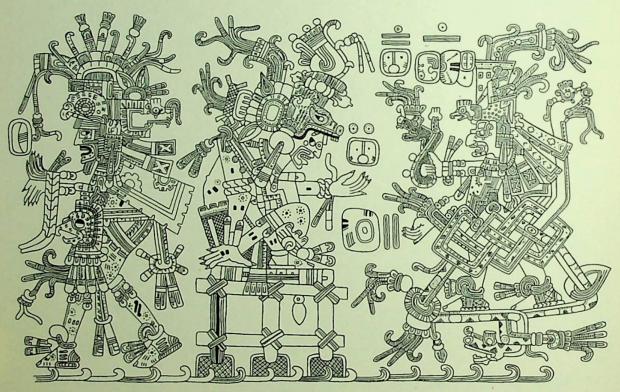


Figure 71. Santa Rita, British Honduras, wall painting with gods and calendar glyphs, tenth century (?)

The exterior surfaces of the Temple of the Warriors were also painted. The sloping basal zone received 131 coats of plaster: the twenty-second of the coats bore figures of men and animals in a processional order like that of the sculptured panels of the platform. The cursive style with yellow, blue, white, and green figures on a red ground may belong to the time between the Chacmool murals and the interior murals of the cella of the Warriors' Temple. Neither of these paintings can be exactly dated, but the exterior murals at the Warriors stand half-way between the hieratic order of the Chacmool murals and the looser narrative manner of the cella frescoes.

Exterior murals also adorned the walls of a platform at Santa Rita in British Honduras (Figure 71). They are relevant here because they show Mexican connexions, as do

the murals of Chichén Itza, but it is a different connexion, closer to Mixtec than to Toltec sources. As we have seen, the orthodox late dating for Mixtec pictorial conventions is untenable in the light of the long Mixtec tradition revealed by Caso's studies of the genealogical manuscripts. The inception of Mixtec pictorial conventions may go back to Late Classic times. If a date corresponding to the Puuc period could be proved for the style of Santa Rita – but the proof is not now possible – the Santa Rita murals would be the oldest wall paintings betraying Mexican influence in the Maya territory, rather than the most recent, as all published discussion suggests.<sup>57</sup>



Figure 72. Deity with calendar glyphs in repoussé gilded copper, from the Well of Sacrifice, Chichén Itza, tenth-eleventh centuries (?).

Mexico City, Instituto Nacional de Antropología e Historia

The painted surfaces are most abundant on 35 feet of the north wall of a mound at Santa Rita. Three painted layers were noted before the paintings were destroyed. The portions copied by Gann were 4 feet 10 inches high. He mentions a few 'glazed sherds' found during excavation: if these were plumbate, 58 a Toltec Maya date would be in order. On the north wall, a doorway separated eastern and western processional files of figures roped together by the wrists, as in the processional reliefs on the dais in the Mercado.

Extreme contortion of the bodies, angular panels of costume, rectilinear divisions of the form, high colour in seven tones, and enumerative composition by the addition of tassels, garlands, panaches, and jewellery (Figure 71) – these are the distinctive formal characteristics of the Santa Rita frescoes. Many reappear in Mixtec manuscripts of the type of Codex Borgia, and the murals at Mitla. The glyph-forms are Maya; the architectural profiles evoke Puuc Maya comparisons; the faces in profile, however, relate to the style of the Dresden manuscript (Plate 104A), also in the rendering of eyes and hands.

Closely related to the Santa Rita frescoes are three gilded copper disks in punctated embossing from the Well of Sacrifice at Chichén Itza (Figure 72). They combine Maya glyph-forms with Mixtec manuscript figures and conventions. Lothrop <sup>59</sup> favours a sixteenth-century date, but the evidence in no way precludes the Puuc or Toltec periods. Lothrop believes that the disks originated in southern Mexico, because of the analysis of the metals, and that the embossing was done in Yucatán.

Farther up the east coast at Tulum are substantial fragments of frescoed walls. 60 The buildings, as we have seen, may well be of the Puuc period. The frescoes are more integrally Maya in content than those of Santa Rita. Lothrop compares their style to Codex Peresianus (Plate 104B) and to certain painted potsherds from Chichén Itza. He notes three stylistic groups, varying in scale and amount of detail rather than in period. An example is the figure of a woman grinding corn upon a metate, taken from the cornice of the Temple of the Frescoes, painted in blue and black lines on a black ground (Figure 73). Each structural part of the body and of the metate is surrounded by a wiry outline, reminiscent of the waxen filaments used in cire perdue metal casting. Upon the lower walls rectangular panels framed by enlaced serpent-forms contain figures and ornaments of the same style, revealing metallurgical connexions in the quality of the line, and manuscript connexions in the division of the wall by registers and compartments.

# Manuscripts

Three illustrated books of pre-Conquest Maya manufacture survive. They are preserved in Dresden, Madrid, and Paris.<sup>61</sup> All three are painted on paper made of the bark of the wild fig, sized with fine lime coating, and pleated as screenfolds with text on both sides. The leaves of the Madrid and Paris manuscripts are respectively 22.6 and 22 cm. (about 8½ inches) high; the Dresden leaves are much smaller (18.5 cm. high), but the pages of all three manuscripts are of tall and narrow proportions, unlike the square or rectangular Mexican pages. Thompson regards Dresden as the oldest of the three, because of the images of 'Toltec Maya' vessel forms. He places Paris slightly later, and Madrid near the close of pre-Conquest history.<sup>62</sup>

In all three manuscripts, extended written statements are illustrated by panels containing human figures, many with the attributes of gods. The principal subject in the Dresden and Madrid manuscripts is the augural calendar, or tonalamatl, occupying usually one-third of a page, with glyphs referring to the regents and auguries of each division of the 260-day ritual calendar, as well as naming the initial days and the dura-

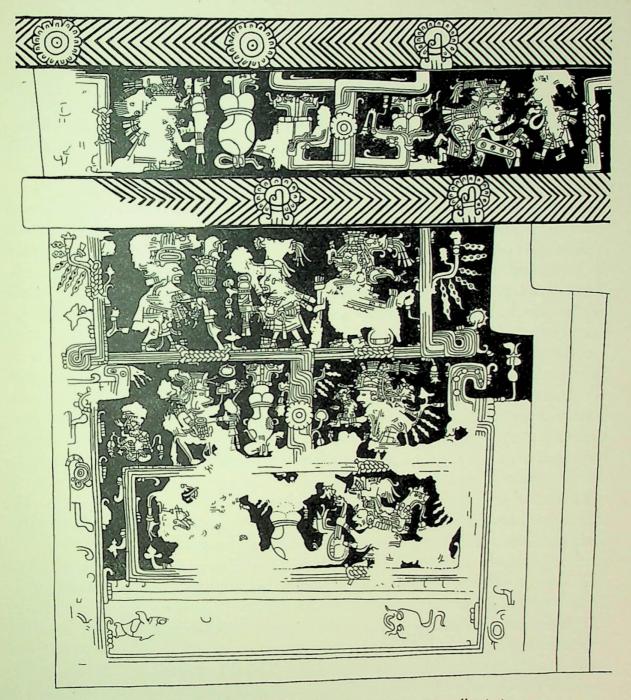


Figure 73. Tulum, Temple of the Frescoes, west passage, wall painting, eleventh-twelfth centuries (?)

tions of the divisions (Plate 63A). Thus the writing frames the illustration, which echoes or re-states the gist of the writing in compact images.

These images were first classified in 1897 by P. Schellhas, 63 who found only fifteen human types among more than a thousand representations. Schellhas assigned a letter to each type; with minor changes these identifications are still in use. The deities of the Maya religion are figured as patrons, regents, or prefigurations of the various time-periods. The most frequent is God B, a rain god with trunk-like nose, pendant fangs,

and a knotted head-dress. He governed the second day, *ik*. The axe in his hand relates him to the head-glyph for six, where a hafted axe is set into the eye. His powers were those of germination and fruitfulness. God D, a toothless aquiline ancient, second in order of frequency, may stand for the supreme deity of the Maya gallery, Itzamna, although there is little agreement upon the definition of his powers. God E, the youthful maize god wearing an ear of corn as a head-dress, symbolized the number eight and the fourth day, *kan*. He is third in frequency. God A, a death god, is the next frequent. He ruled the sixth day, *cimi*, and his attributes symbolize the number ten. His skeletal figure, hung with bells, was a sign of evil influence.

The three manuscripts clearly belong to different regional styles and to different generations. The difficulty of dating them is further increased by the likelihood that each is a late copy or recension of a variety of earlier material. The Dresden manuscript is closest in style to Classic Maya antecedents, although the iconography of certain portions betrays strong Mexican influences. For example, pages 46–50, treating of the cycle of 2920 days (Plate 104A), relate to the combination of five Venus years with eight solar years (5 × 584 = 8 × 365). On each of the five pages a seated deity presides above a crouching warrior, and the lower panel represents a wounded figure pierced by arrows, very much as in the south Mexican ritual manuscripts of the type of Codex Borgia. 64 Since the antecedents of that group are Mixtec, the terminus post quem for this iconography can be taken as about the eighth century. The absence of Toltec traits, other than the pottery forms mentioned above, strengthens a dating prior to the eleventh century. In short, the Late Classic period is probable, but the place of composition in the Maya area cannot be identified. 65

The Paris manuscript (known as Peresianus because of the name, Perez, written on it) is much damaged by the flaking of the plaster at the edges of each page (Plate 104B). The graphic style is crowded: two contrasting scales of large and small figures are surrounded by a mosaic of pebble-like glyph forms. The figures are more arbitrarily drawn than in the Dresden manuscript. There, a firm idea of the organic envelope of each figure guides the draughtsman's hand, but in the Paris pages, the huge heads, spindly limbs, and prolix attributes betray an enumerative approach from which the idea of any organic unity of the forms of bodies is very remote.

The Madrid manuscript has the coarsest and most cursive style of the three books, but it reports many details of the ritual life of its time and place in its scratchy pictures of deer-trapping, bee-keeping, farming, sacrifices, and warfare.

#### CHAPTER IO

## THE NEIGHBOURS OF THE MAYA

## THE GUATEMALAN HIGHLANDS

THE Cordilleran highland of Chiapas, Guatemala, and Salvador is a mountainous land bridge favouring east-west transit. Its volcanoes mark the southern boundaries of Classic Maya civilization. Repeated invasions of these highland valleys and Pacific plains from the Gulf Coast and from the mountains of Mexico occurred in all pre-Columbian periods, with the result that Maya culture was never dominant in the region, even if, from Chiapas to the Río Lempa, different dialects of the Maya language may always have been spoken. The record of conquest and colonization from Mexico is apparent in the archaeology and place-names. At least four principal waves can be distinguished: an Olmec penetration of pre-Classic date; a Teotihuacán influence in Early Classic times; a Veracruz infiltration in mid and Late Classic times; and a Mexican highland conquest during the centuries after 1000.

Maya civilization, limited east and west by water, was bounded in the south by these Mexican peoples. The centripetal character of Maya history, with its displacements from the Petén to the river cities, and finally to the plains, may have an explanation in this combination of tribal and geographic limits. Maya stylistic elements, though present in the southern highland, always competed with other traditions in an uneasy coexistence.<sup>2</sup>

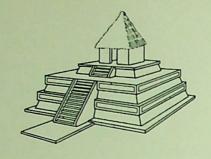
Certain essential Maya traits are recessive in southern highland art: for example, the corbelled vault appears only in a few underground tombs and never in free-standing buildings, where, instead, mortar beam-roofs were the rule. Initial-Series inscriptions are very rare, and monumental relief sculpture appears only sporadically. Large groups of sculpture are known at Izapa, in the Escuintla district, and at Kaminaljuyú. But on the principal sites, which can be roughly dated by relation to the main periods of Mexican

and Maya archaeology, non-Maya traits predominate.

One of the older edifices in the region is Mound 3 in Quadrant E III at Kaminaljuyú. E III is a mound group at Finca Miraflores, in a suburb of Guatemala City. Radiocarbon dates from the excavation indicate early construction at E III 3 in the second millennium B.C., continuing until the Early Classic period in the opening centuries of the Christian era.3 It appears that the mound was part of a long, narrow, rectangular plaza bordered by other mounds, all built of puddled and stamped clay (adobe). In the fourth stage of re-modelling, dated about the twelfth century B.C., a sloping-apron moulding, with smoothed clay finish, was built,4 which resembles the profiles of earliest lowland Maya terraces, such as those of E VII sub at Uaxactún.

Subsequent to Group E III at Kaminaljuyú are Mounds A and B, facing east and west across a plaza, at Finca La Esperanza (Figure 74). In Early Classic times both pyramids were repeatedly enlarged, in the style of the principal pyramids of Teotihuacán,

Q



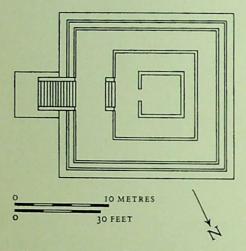


Figure 74. Kaminaljuyú, Mound A 7. Reconstruction view and plan of appearance during Early Classic period, c. 300

characterized by sloping talus walls and vertical tablero panels (Figure 3). The tomb furniture likewise proves the direct influence of Teotihuacán, with cylindrical tripod vessels, many bearing stucco decoration in both Maya and Teotihuacán styles. As at Teotihuacán, the single-moulding cornice with cantilevered or counterweighted projections preceded the use of the full tablero.5 The early stages of both pyramids were built of puddled clay. The final increments which show Teotihuacán forms are built of lumps of pumice laid in mud.6 As early as A 2 the stairs are bordered by substantial balustrades; in A 5 an upper flight is separated from the lower one by a landing; and in B 4, an impressive fore-pyramid of two stages, surmounted by a temple on a landing (Figure 3), may reflect the model of the Pyramid of the Moon at Teotihuacán on a diminutive plan (28 m.; 92 feet wide, against 143 m.; 470 feet at Teotihuacán).

The most striking trait in the architectural style of all provinces of the Guatemalan highlands is the abundance of stairways, evident in Early Classic times, as during the Esperanza phase of Kaminaljuyú, and at Zaculeu in the western highlands. Balustrades of ample proportions, with an upper

part of different slope ('battered balustrade'), appear at Zaculeu in its earliest, Atzan phase,7 which is coeval with the Esperanza phase of Kaminaljuyú. The form recurs at Nebaj in the Early Classic period, and it became a widely used type in the Guatemalan highlands by the end of the Classic era.8 When the tendency to move to hilltop sites, probably for military defence, became general, during the closing centuries of pre-Conquest history, the ornamental proliferation of many parallel and storeyed flights of stairs became the distinguishing feature of highland architecture, as at Cahyup and Chuitinamit in Baja Verapaz. Structure 2 at Cahyup (Plate 105 and Figure 75) is approached by no less than ten flights in the lower platforms, and the twin temples on its platforms have six each, totalling twenty-two distinct flights, combining with the terraced stages in an extraordinary effect of staccato rhythms and shadowed diagonals. These are the most variegated staircase compositions in ancient America: only those of Monte Alban approach their complication.

The monumental sculpture of the Guatemalan highlands betrays Mexican antecedents in pre-Classic and Early Classic stages, yielding to Maya influences prior to a recrudescence of the Mexican style in the Toltec period. These Mexican stimuli are of different sorts: Olmec, Monte Alban, Classic Veracruz, and Mixtec or Toltec strains can be defined in roughly that chronological order. Monuments of the Olmec style appear

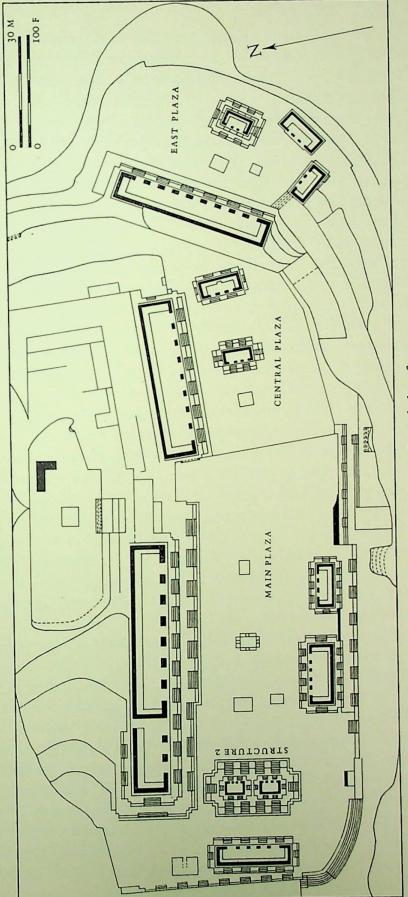


Figure 75. Cahyup. General plan after 1300

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at Izapa in Chiapas, near the Guatemalan border, and at San Isidro Piedra Parada some 35 miles distant in south-eastern Quezaltenango. The Guatemalan example is the most unmistakably Olmec; the Izapa sculpture, though closely related to the relief style of La Venta, is less obviously akin.

The Izapa sculpture may be divided into three groups, whose chronological positions are uncertain. One group, of carefully framed relief panels, includes Stelae 2 and 9.10 Another group (Stelae 1, 3, 4, 6, 7, 11, 21) 11 has top and bottom bands of relief, but the sides are undefined, as if a strip or section of relief had been cut off (Plate 106). In a third group (Stelae 5, 10, 12, 18), the figural complication suggests narrative ambitions: there are grouped figures in landscape settings (Stelae 10, 12) and curving around the edges of prismatic blocks (Stela 18). It is likely that the band-reliefs without lateral frames preceded the large 'landscape' compositions. Both should be compared to the reliefs at La Venta, as examples of pre-Classic sculpture derived from Olmec centres of style. In addition, Proskouriakoff has suggested a connexion with Monte Alban, 12 which we would see reflected in the banded sky-symbols on the upper borders, but she was unwilling to attempt any correlation between the Izapa and Maya sequences beyond placing the interchange in Early Classic times. Possibly this Guatemalan highland extension of the pre-Classic relief style enjoyed long provincial esteem, continuing until a late date.

The next group of highland reliefs resembles not only the stelae of Monte Alban, but also the Early Classic style of central Veracruz, of which many elements occur at Cerro de las Mesas. 13 Closely similar in Guatemala are Stela 4 at Izapa, and Stela B at Kaminaljuyú (Plate 107). Both have striding figures in profile, burdened by vast head-dresses, and standing upon glyph-like scrolls. These scrolls resemble the sky-symbols of certain stelae in Oaxaca (Plate 48B) as well as of the tomb murals of Monte Alban (Plate 50). A variant recurs in Teotihuacán painting: the form probably defines an Early Classic and non-Maya group. The Izapa stela relates as well as to the group in the Olmec style on the same site, so that we may place it earlier than the Kaminaljuyú stela, of which many orms distinctly suggest a tardy moment in Early Classic Maya art (e.g. costume ements and scroll forms).14

On the Pacific slopes of the central highlands many reliefs and full-round heads, used as architectural ornaments, occur in the department of Escuintla. They have long been associated with the legendary Pipil tribe of Mexican origin. Thompson has placed this art in the Late Classic period prior to the Toltec intrusions, because the Quetzalcoatl theme seems to be absent. To his arguments may be added the close affinity between the Escuintla reliefs from Santa Lucía Cozumalhuapa (Plate 108A). The portrayal of ballgame yokes in use, together with knee-guards and flagstone heads as ball paddles, as well as the indications of a ritual of heart sacrifice, are traits which all belong to Late Classic central Veracruz sculpture. Stone ball-game yokes and flat stone head-paddles frequently occur in the central highlands in forms like those shown in the reliefs.

These reliefs usually bear several figures spread over the surface in a regular pattern by registers, by radial pattern, or by simple left-and-right compositions lacking overlapping or other suggestions of depth. Animated motions are rendered with schematic and wooden clarity: one has the impression of unprofessional sculptors who remem-

bered distant models without any present example to guide their work. The day-signs resemble those of the south Mexican calendar (e.g. Codex Laud) and the numeration by circles standing for units is also of south Mexican type. On the other hand, the tall, narrow panels, with a ball-player below, raising his arm to the head of a deity above, recalls the formula of certain Piedras Negras stelae, which have priests in low relief on a lower level, beneath nearly full-round figures of deities in the niches above. As at Piedras Negras, the Cozumalhuapa deities are frontally presented and nearly full-round. Underneath the deities, each of the ball-player figures stands in profile, wearing on one hand a mitten or glove which ends in a flat stone head. Seven of these reliefs are known. The compositional formula is always identical, but the details of attributes and costume differ from one to another. Two groups are readily distinguished: those with and those without glyphs of Mexican derivation. One group, with glyphs (Plate 108A), has greater figural mass, and a more decisive relation between figure and ground. The details of costume and attributes are also more clearly indicated (Monument 3). Circular Mexican glyphs characterize these reliefs, to which the flat panels of recumbent male figures also belong (Monuments 13 and 14), as well as two sacrificial scenes (Monuments 1, 11, 15, and El Baul, Monument 4). In the other group (Plate 108B), the composition is carried by tendrils and streamers of an uncertain and inconclusive form (Monuments 5, 2, 4, and 6). By analogy with Chichén Itza, where we have supposed that the reliefs of the main ball-court are later than the reliefs of the Warriors' Group and colonnades, it is possible that the reliefs with decorative tendrils and streamers are later than the more sculptural compositions. This sequence perhaps spans Late Classic and Toltec periods.

Among the Escuintla carvings, one group represents the heads of aged men, often with extruded eyeballs and sagging pouches set in deeply wrinkled faces. One large example distantly recalls the colossal Olmec heads of southern Veracruz; <sup>17</sup> another fragment evokes the stelae of Quiriguá, with the face in three-fourths relief against a ground of feathered parts of costume. The many horizontally tenoned stone heads can also be compared to those of Copán and Quiriguá. Like the reliefs discussed above, all these carvings probably belong together and to a sculptural tradition enduring a century or two at most, in Late Classic or Toltec times.

The ceramic history of the Guatemalan highland contains many regional traditions. The main outlines of the sequence all confirm the interpretation of the cordillera as a land bridge between Mexico and Central America whose inhabitants had only infrequent contacts with the lowland Maya peoples. Their most significant contributions to Maya art occurred in the Classic era. In the early phase, potters at Kaminaljuyú helped to mediate between the styles of Teotihuacán and Maya painting of the Tzakol period. Later on in the Tepeu period, the painters of the Chixoy river in the Alta Verapaz produced the Chamá vases which are the finest examples of mid-Classic pottery painting in Maya archaeology. Finally, a pottery style of the Toltec era, called plumbate, probably originated in south-western Guatemala or Chiapas, whence it spread over all Mexico and Central America.

In the Esperanza tombs of Kaminaljuyú, the appearance of stuccoed cylindrical tripod

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jars of the same shape, but painted in the Maya styles of Teotihuacán and Tzakol, is recorded from the same tombs (Mounds B II and A VI) <sup>18</sup> of Early Classic date. The pastes, like the fine volcanic ash temper, are identical, so that they are surely the product of the same school of potters, in highland Guatemala, just as the tall cylinder is peculiar to that region, never occurring at Teotihuacán. Kidder has also commented on the fact that these artists were capable of painting in the styles of two different civilizations, using quite different vocabularies of symbolic design, originating 600 miles apart.

Plumbate pottery has a grey, hard, and lustrous surface resembling vitreous glaze (Plate 109A). 19 It is a slipware made from fine-textured clay of high iron content, fired in a reducing atmosphere at temperatures about 950° C. Its manufacture flourished between c. 900 and 1250. The ware marks a period of Toltec ascendancy, without being of Toltec manufacture, throughout Mexico and Central America. It is distributed from north-western Mexico to Nicaragua, and it is most frequent in western Guatemala at the Mexican border. This province, anciently known as Soconusco, may be the source of plumbate. The ware has been divided into three classes: San Juan, without effigy vessels, is the oldest; Robles, with moulded decoration, is intermediate in time and transitional in type; and Tohil comprises the elaborately decorated effigy vessels which are assigned to the twelfth and thirteenth centuries (Plate 109B). 20 Only Tohil plumbate had a wide diffusion, and it can be recognized not alone by elaborate form and effigy modelling, but also by distinctive paste and by scroll forms of decoration.

# EASTERN CENTRAL AMERICA

As a geographical entity, Central America extends from Oaxaca to the northern Andes, including both the Maya area and the non-Maya regions. The boundary between Maya and non-Maya at the Río Lempa in Salvador and the Río Ulúa in Honduras is a cultural frontier. West of this line, Maya and Mexican archaeological types predominate. East of it another culture, best designated as Central American, appears with intrusions from Mexico and from the Andean region. The substructure of Central American culture is probably ancient, and it has a certain South American character, most apparent in the pottery and stonework of pre-Classic date, from Honduras to Panamá.<sup>21</sup> On the other hand, the principal stylistic groupings prized by collectors, such as Ulúa vases, Costa Rican highland stone sculpture, and objects of pottery and jade from the Nicoya peninsula, all betray Maya and Mexican contacts. Only the goldwork of Panamá and Costa Rica can be ascribed to Andean spheres of influence, and it reaffirms the South American connexions shown in the basic, pre-Classic manufactures of Central America. The exact composition of these shifting currents of pre-Columbian artistic influence is much less well understood in eastern Central America than in Mexico or the central Andes. South American forms were most important in early and in late times. The intervening period was under more or less direct Maya and Mexican artistic domination, probably for about a thousand years, and it was in this period that many of our examples, however insecurely dated, surely originated.

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Long custom has enshrined two tribal terms in Central American archaeology: Chorotega, referring to the 'Mexican' groups along the Pacific coast of Nicaragua and Costa Rica; and Guetar, referring to the mainland regions with drainage into the Caribbean. Anterior to both the Chorotega and Guetar tribes were peoples bearing a distinctive and unified culture of Central American character. Neither term can surely be taken to describe events much older than the period of the Discovery, and it is preferable to speak of mainland and coastal regions.

What was the artistic character of this presumptive matrix of Central American culture? Certain classes of stone manufactures, and a group of ceramic traits are relevant.<sup>22</sup> Among stone carvings, the ornate three-legged and four-legged food-grinding tables (metates) are representative, and so are human figures raised upon pedestals or peg-like bases. In pottery, elaborate shapes encrusted with plastic additions recur throughout Central America as if in an early stratum. Spouted vessels, and shoe-form vessels; tall tripods or tetrapods, or pedestal bases are common; also effigy vessels with features in filleting, modelling, and incision. Animal and human forms predominate. The ornamental language, both in stone carving and in painted pottery, is a combination of bands and fields of braided, plaited, and re-curving decoration possibly derived from textile techniques.

# The Ulúa 'Marbles'

One instance among many of the penetration of these Central American forms into Maya territory is the case of the stone vessels found along the north coast of Honduras. They fall into two groups, eastern (identified with the Paya tribes) and western (centring upon the Ulúa Valley in the Maya country).<sup>23</sup> The eastern vessels are of porous volcanic stone (Plate 110B); the western ones are of travertine (Plate 110A). Both groups share their forms with Honduras. Vertical-walled vases with opposing handles of bird and animal shapes are the most common. The two regional varieties have different surface decorations: the Ulúa Valley 'marbles' are carved with overlapping scroll patterns, the 'Paya' vessels have only braided bands, or heavy corded decoration at the lip and base. Occasionally these braided interlaces appear in the Ulúa 'marbles'. Only the vertical-walled form, and the tripod feet of certain examples in both varieties, betray Maya and Mexican derivation. The tripod nubbin feet, which are Classic in form, usually coincide with the braided ornamental bands of Central American type. The date of the form is Late Classic at the earliest.

# Costa Rican Mainland Sculpture

These north Honduran stone carvings can be considered together with those of the adjoining Mosquito Coast of Nicaragua, and the so-called 'Guetar' style of the Costa Rican highlands. Certainly the art of this entire Caribbean façade of eastern Central America seems connected by the production of stone vessels and instruments, carved with images of live forms and braided designs. In Costa Rica, the principal centre of these manufactures was probably around Mercedes, at the point where the highland

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joins the coastal plain. Statues, slab altars, and four-legged food-grinding tables in the shape of jaguars are the principal types (Figure 76).

The tribal name for the style has long been given as Guetar,<sup>24</sup> although the archaeological type-site, Mercedes, lies just outside the Guetar area. The style probably ante-dates by many centuries the appearance of the Guetar, a people of Chibcha language (hence of South American origin) who were in the region at the time of the Discovery. An early dating for



Figure 76. Food-grinding table from Mercedes, eleventh century

the stone manufactures has been confirmed by C 14 evidence at Mount Irazú, where 'Guetar' associations occur about 1000.<sup>25</sup> While it is difficult to accept so vague an ethnic term as Guetar, it is also hard to discard so long-established a name. But much favours the adoption of a more descriptive geographic term, such as 'Mainland Costa Rican sculpture', distinguishing it from the art of the Pacific Coast of Nicaragua and the Nicoya Peninsula in north-western Costa Rica.

Among mainland Costa Rican sculpture, it is easier at first to see local variants than to affirm the existence of a coherent style. From south to north, at least three such local variants attract attention. At Palmar in southern Costa Rica, human figures are predominant, varying from columnar forms of igneous rock to slotted slab figures of sandstone, which often have three perforations to separate the arms and legs (Plate IIIA). The other example here illustrated (Plate IIIB) is among the finest examples of sculptural articulation and organization in eastern Central America, with repeating rhythms of pendulous shapes and inflated limbs, which contrast with the fine cutting of the guilloche bands on the arms and flanks. The stance is free, asymmetrical, and open, with the feet connected by a stone septum to reduce the chances of breakage. Mason suggests that the columnar figures antedate the slabs, although he refrains from any closer seriation.26 Certainly their general appearance is closer to the inception of a figural style than to an elaborate terminal phase. Farther north, the Mount Irazú sculpture of igneous rock from Las Pacayas is very different. Human figures still predominate, but they are carved in bloated, rotund forms with stubby limbs. The arms are curved ridges, and the legs appear as re-curved scrolls, without projections beyond the boulder-like envelope of the figure. These figures are perhaps a local variant of the putative early style of columnar figures from Palmar. At Mercedes, farther north, in the lowland jungle at the edge of the highland meadows, lava figures of human beings and animals are abundant.

Bars and connectors of stone appear again in the ornate stools and food-grinding tables excavated from the tombs of Mercedes, where their purpose is less to insure against breakage than to permit complicated sculptural variations, wherein small figures with free movements swing or balance upon the stretchers of stone or pottery. The most remarkable of all Central American sculpture are surely the tripod metates from the region north-east of San José (Plate 112A).<sup>27</sup> The legs are enriched by acrobatic jaguars and

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spider monkeys balancing upon human heads. A panel in the sagittal plane is perforated with the outlines of a double-headed crocodile deity, standing upon a Mexican earthmonster, and holding a serpent in his mouth. Not the least singular trait of these metates is their orthogonal character as compositions in frontal plane and profile elevation, without any of the intermediary passages suggestive of rounded, continuous space. Indeed, from western Panamá through Costa Rica to northern Honduras, it is sculptural invention and rhythmic ingenuity that characterize the area.

# The Pacific Coast

When we compare mainland sculpture with that of the Nicoya Peninsula in Costa Rica, and along the Pacific Coast of Nicaragua, the elusive unity of the former, in respect of ingenious sculptural complications, suddenly appears clearly, in sharp contrast to the linear and geometric propensities of the Nicoya sculptors. The contrast obtains not alone for stone manufactures, but for pottery too. On the mainland, the predominantly monochrome vessels are like clusters of sculptural increments, while the Nicoya polychrome wares of north-western Costa Rica are principally decorated with painted designs of Maya and Mexican derivation (Plate 113A). This contrast between linear and plastic tendencies reappears in the stone products of Nicoya and the Costa Rican mainland. For instance, the three-legged Nicoya metates (often and without sufficient reason called by a tribal name as 'Chorotegan') are decorated with flat interlacing strapwork carved in basaltic lava.<sup>28</sup> The curved grinding surface never has a rim, as in the four-legged mainland types, and the occasional jaguar metates of Nicoya are composed of thin and elegant planes lacking the anatomical character of the 'Guetar' jaguars.<sup>29</sup>

The differences between the styles of the two regions may well reflect a chronological separation. The mainland monochrome pottery and figural stone-carvings are probably older than the Nicoya types, whose date may be no earlier than the Late Classic associations indicated by Maya derivations in the painted forms and by the occurrence of Nicoya pottery in mid to Late Classic deposits at Copán.<sup>30</sup> That some Nicoya polychrome ware is coeval with the interlace metates is suggested by the occurrence of the same braided forms of ornament, identifiable as alligator-motives, in both.<sup>31</sup> In respect of design, a type portraying seated human beings in profile resembles south-eastern Maya pottery painting of mid-Classic date; <sup>32</sup> other groups, with a plaster-like slip and brilliant colours varnish-coated, resemble Mixtec pottery not only as to design, but also in shape and technique. Here the vexed question of Mixtec chronology arises once more, but the evidence for secure dating in Nicoya is no better than in western Oaxaca. In any event, one may tentatively bracket Nicoya polychrome ware between the sixth and fourteenth centuries, choosing the earlier date because of the tomb association at Copán, and the late one because of Mixtec affinities.

Jades. The distinctive blue-green jades of Costa Rica reflect the contrast of mainland and peninsular styles in divergent repertories of forms and techniques. The Nicoya jades are usually flat axe-blades cut to resemble human, animal, and bird forms (Plate 113B). In north-eastern Costa Rica, the region around Guápiles was another jade-working

#### PART TWO: THE MAYA AND THEIR NEIGHBOURS

centre, where figures in profile with string-sawn, perforated inner silhouettes were the fashion.<sup>33</sup> The Nicoya axes are assumed to be typologically older than the Guápiles ornaments, which were probably meant to be worn only as parts of a costume, or as amulets. Their instrumental nature is much less evident than in the Nicoya axes, although a great variety of functional types can be noted in the Nicoya group. There are long and narrow blades like chisels, of differing sizes, as if for cutting different substances, and wide, spatulate blades as if for cutting meat. Some have cleft blades like those of Guerrero. Many blades have suspension drillings, so that they are often classed as amulets or pectorals, although the holes may only have served to pass a lanyard to the wrist of the user of the tool.

Monumental Sculpture. The Pacific Coast in Nicaragua is part of the same 'Chorotegan' area as the Nicoya Peninsula in Costa Rica. The pottery types are similar, although monumental sculpture is absent in Nicoya, and jades are uncommon in Nicaragua. The monumental sculpture is human statues on pedestals. Some bear animal figures on their heads and shoulders (Plate 112B). Opinion is divided on the origin of these burdened and enigmatic statues: some think they are archetypal Central American motifs; others ascribe them to South American sources. Whatever the origins, Mexican Toltec traits appear in certain figures.<sup>34</sup>

The statues are of two styles. One is of cylindrical shape with shallow carving and comes from the Chontales district east of Lake Nicaragua. The other is the *alter ego* or 'guardian-spirit' statues <sup>35</sup> from the islands and the shores of the Nicaraguan lakes. The Chontales statues distantly recall the central Andean sculpture from Huaraz, and the lake statues are faintly reminiscent of the San Agustín figures from Colombia. But Chontales figures can with equal reason be regarded as close relations of the Costa Rican mainland sculpture, and the lake figures can be regarded as South American parallels to Toltec Atlantean figures.

Distinct periods are probably present. The Chontales figures are primitive in respect of sculptural articulation. Their braided belts and guilloche bands mark them either as provincial imitations, or as archaic precursors, of the Mercedes style. The elaborate articulation and the powerful expressive character of the lake statues, however, correspond to an altogether different stylistic atmosphere of mature technical skill and of metropolitan demand. The example here illustrated (Plate 112B), from the north end of Zapatera Island in Lake Nicaragua, portrays a seated male. His head-dress resembles that of a Nicoya mace-head. The meaning is totally unknown, but the burdened expression of these figures crumpling beneath enormous animal charges is more than totemic or heraldic. The close connexion with burial grounds, moreover, is most unusual for ancient American sculpture. The differences between Chontales and lake sculpture, in brief, are like the differences between mainland and coastal styles: possibly two different ethnic groups, separated by Lake Nicaragua, and by as much as several centuries, are involved.

The Styles of Panamá. The present republic of Panamá contains four main archaeological provinces. The easternmost, Darién, is artistically insignificant. The westernmost, Chiriquí, 39 overlaps with mainland Costa Rica and with its eastern neighbour, Veraguas,

### THE NEIGHBOURS OF THE MAYA

to such a point that separate description is unnecessary in a book such as this. The central provinces of Veraguas and Coclé require extended discussion, because of the separate aesthetic identity of their manufactures, and because of the exact knowledge about them provided by the admirable studies of S. K. Lothrop. Polychrome pottery, repoussé gold, and cast jewellery characterize the Coclé productions (Figure 77). The province of Veraguas specialized in the manufacture of metates and open-back gold effigy pendants. Both the Coclé and Veraguas styles have strong South American resemblances and their influence, through trade, extended far to the west, into Yucatán, southern Mexico, and northern South America.

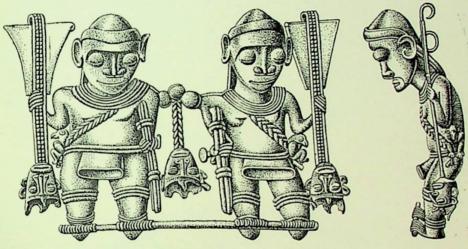


Figure 77. Effigy pendant from Sitio Conte, Coclé style, fourteenth-fifteenth centuries. Cambridge, Mass., Harvard University, Peabody Museum

Veraguas. The volcanic stone metates resemble those of the Costa Rican mainland. Some are three-legged, with sagittal panels of ornament under the grinding plane, and others are replicas of the 'Guetar' four-legged jaguar metates. Goldwork, however, was the most important manufacture in Veraguas. The effigy pendants, which influenced the Mixtec goldsmiths of Oaxaca, represent birds, jaguars, ant-eaters, monkeys, crocodiles, frogs, lobsters, fish, human beings, and monsters with jaguar, crocodile, or bird heads on human bodies (Figure 77). The technique of all these pendants is cire perdue casting. The desired form was first built of threads and sheets of wax, then enclosed in a clay mould furnished with vents for the escape of the wax melted before the liquid gold was poured. Veraguas castings are usually flat and designed for wearing by suspension, and framed on two or more sides by rectangular flanges. The goldsmiths avoided the complications of full-round figures, preferring to leave the backs of the figures open. Their work gives the impression of production in series for an export market. It resembles certain South American types, especially in Colombia, both as to forms and techniques.

Coclé. All the evidence suggests that the prehistoric people of the province of Coclé were the most affluent and skilful artisans of the Isthmus.<sup>41</sup> The goldwork, of repoussé sheets and full-round castings, is less stereotyped, and technically more elaborate, than that of Veraguas. The polychrome pottery, painted in two or more colours on a light





Figure 78. Polychrome pottery plates from Sitio Conte, Early (fourteenth century) and Late (fifteenth century) varieties of Coclé style.

Cambridge, Mass., Harvard University, Peabody Museum

### THE NEIGHBOURS OF THE MAYA

background, with scroll designs and animal forms of reversing-curve patterns, has a flamboyant ornateness instantly distinguishable from the American pottery. Although not without opposition, Lothrop suggested the Coclé style to have been of Amazonian origin, and affected by Central American traditions, because of the character of the pottery design, recalling Marajó forms in the Amazon basin, and because of Colombian and Ecuadorean influences and trade relations in jewellery.

Two pottery styles can be discerned (Figure 78): Lothrop, by grave associations and stylistic evidence, dates the earlier 1330–1420 and the later 1430–90. He also assigned many vessels to individual artists. Early painters used a thin line and fewer colours than later ones. In the late style massive linear effects and bolder colours in balance became common. Early scrolls are generally circular; late ones are flattened or oval curves. The Coclé repertory of beasts and fish reflects hunting and fishing for subsistence. The potters and metal-smiths had a small vocabulary, but within it they enriched the images by stylistic devices which evoke Andean art much more directly than any other sources (Figure 77).

# PART THREE

# THE ANDEAN CIVILIZATIONS

#### CHAPTER II

# THE NORTHERN ANDES: COLOMBIA AND ECUADOR

THE urban societies of the South American continent all flourished in the Andes, along a strip of mountainous coast less than a hundred miles wide, extending from the Caribbean façade of Venezuela and Colombia southward along the Pacific to northern Chile. Nomadic hunters of the southern Andes and plains and the tropical tribespeople of Amazonia will be treated, as will the Indian tribes of North America, in another volume of the Pelican History of Art. Here we deal only with those parts of the mountainous northern and western rim of the South American continent where durable artistic traditions flourished.

The geographic conditions for civilization in the Andes are unlike those of Mesoamerica. Instead of the lakes and rivers of highland Mexico, spreading across the continent to the tropical Atlantic and the arid Pacific coasts, the Andean region is a narrow system of corridors between mountain ranges, rising abruptly from the coastal plains, and bounded on the east by oceans of tropical vegetation where the highlanders descended unwillingly. On the Pacific side major civilizations flourished in the river valleys separated by forbidding deserts. Conflict and interchange between the highlanders and the coastal peoples were continual: the only Mexican parallel for the Andean situation is the relation between the Gulf Coast peoples and the central plateau dwellers. There is no South American analogy for Maya civilization, and there is no close Andean parallel for the sedentary farming peoples of western Mexico. Conversely Mexico and Central America have no equivalent for the river-bank civilizations of the arid coast of Peru, nor have they any societies adapted to high altitudes like those of Southern Peru and Bolivia.

These differences are clearly evident in the arts of Mesoamerica and the Andes. The anthropomorphic or humanist bent of all Mesoamerican expression is carried by innumerable representations of the human figure. In the Andes a humanistic style appears only intermittently, as in Colombia and Ecuador, or on the north coast of Peru; elsewhere the human figure is subjected to complex deformations tending either to the emergence of monster-like combinations or to the dissolution of the human form in geometric abstractions. Throughout the Andes a dominant concern for technological control over the hostile environment is apparent. It can be seen in great works of irrigation on the coast, or in stupendous agricultural terracing in the highlands. Andean metallurgy is at least a thousand years older than that of Mexico and the Maya region. Another

continuing preoccupation of the Andean peoples was to achieve political unity among widely scattered populations by religious or dynastic government. The repeated appearance of unified pan-Andean states is suggested in the archaeological record of Chavín, Tiahuanaco, and Inca art.

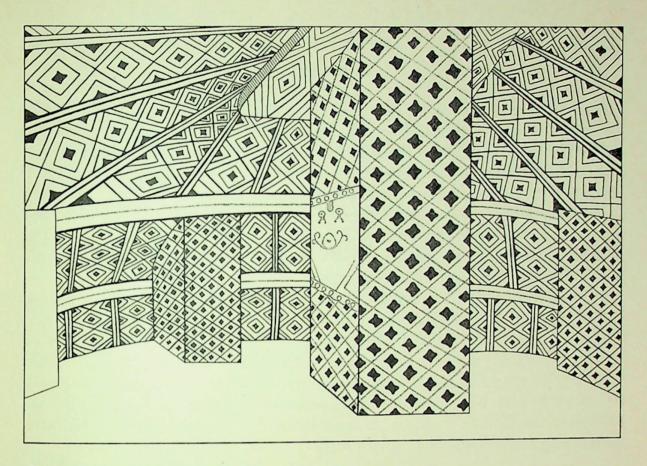
Favoured by this evidence of cultural unity in the relatively uniform environment of the Andes, archaeologists have been inclined during recent years to systematize their findings in a developmental classification even more schematic than the Mesoamerican one.<sup>2</sup> This classification has more divisions than the Mexican and Maya schemes. For example, the term 'Classic' is not current in Andean archaeology, where its place is taken by 'Florescent', or 'Master Craftsmen'. On the other hand, the 'Cultist' and 'Experimenter' periods of recent Andean chronologies have no counterparts in Mesoamerican terminology, where their places are still taken by ethnic terms of limited extension, such as 'Olmec' and 'Toltec'.

There is no good reason for not extending the simpler terminology of Mesoamerica, based upon pre-Classic, Classic, and post-Classic phases, to the Andes. The scale of the present work justifies such a simplification, and the scheme has many precedents in Old World archaeology, although the transfer of the term 'Classic' from the Mediterranean world makes for confusion, especially where it refers, in Maya studies, solely to people who used Initial-Series and Period-ending dates, from the first to the seventh centuries A.D., as in Miss Proskouriakoff's *Classic Maya Sculpture*.

No such definition will serve for the pre-literate Andean societies; but, for the sake of clarity, we shall apply the term 'Classic' to those civilizations which existed in the same time-span as Classic Maya culture, and whose works of art occupied (as we shall see) a similar position in the history of form.

### NORTHERN SOUTH AMERICA

In terms of human geography, South America is divided into the narrow Andean theatre of the urban societies, and the wide plains and rain-forest of Argentina, Brazil, and the Guianas. The Andean region was densely settled, in contrast to the small and scattered population of diminutive migratory tribes in eastern South America. Northern South America reflects this division. Ecuador and the highlands of western Colombia extend the Andean cordillera. In Venezuela, a meeting of Caribbean, Mesoamerican, and Amazonian traditions occurs without spectacular objects or great sites of urban development. The system of these cultural connexions in antiquity has been compared to the letter H: the left upright connects Mesoamerica and the Andes via Central America; the right one connects the Caribbean islands and Amazonia; and the horizontal link between the uprights is Venezuela,<sup>3</sup> where elements of all areas intermingled. For the purposes of this book, only western Colombia and Ecuador are relevant, with monumental sculpture and abundant metallurgical products, but there is little architecture, and the pottery has small aesthetic appeal.



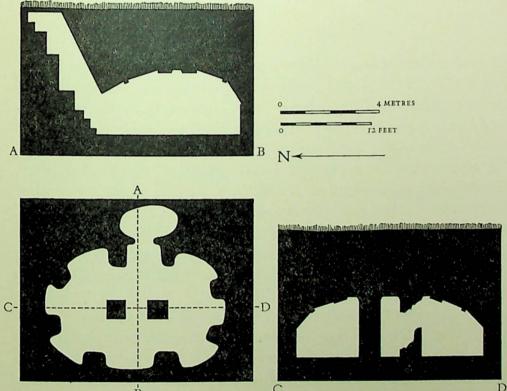


Figure 79. San Andrés, Tierradentro province, Colombia, Tomb 8, seventh century (?).

Perspective view, sections, and plan

### COLOMBIA

Of nine archaeological zones in Colombia 4 two, named Nariño and Mosquito, can be excluded here because of the poverty of the remains. Of the other seven the Tierradentro zone between the upper valleys of the Magdalena and Cauca rivers has an imposing and durable architecture of rock-cut tombs (Figure 79). The San Agustín zone farther south, near the headwaters of the Magdalena, contains an important style of monumental sculpture (Plates 114–15). The Calima river basin and the Chibcha, Quimbaya, and Sinú river provinces were all centres of different gold-working styles (Plates 116–19). Tairona archaeology in the mountains of the north-eastern coast 5 shares features with both Venezuelan and Central American types.

The chronological sequence is still unsettled, although most students agree in placing San Agustín sculpture and Calima gold-work in an Early context, coeval with the Olmec and Chavín styles. The Tierradentro tombs are probably later and by a different people. Quimbaya gold-work has provisionally and arbitrarily been fixed as of the Middle or Classic period in Colombian antiquity. Chibcha <sup>6</sup> and Tairona, which still existed in the sixteenth century, are classed as Late. Bennett pointed out that this arrangement, though better than none, is unsatisfactory because it provides nothing Early for some regions, and nothing Late for others.<sup>7</sup>

# Architecture

The principal remains of ancient construction are stone streets and foundations in the province of Tairona, and the underground tombs of Tierradentro in the south. The Tierradentro tombs are oval, and the Tairona houses were circular. Bennett regards the Tairona villages as of Late construction. The Tierradentro tombs are generally accepted as of Middle date. Pérez de Barradas divides them into three groups: 8 the initial group lacks niches; the intermediate tombs are painted; the last group are oval in plan, with painted walls, rock-cut piers, and stair-well chambers.

The elaborate tombs with slanting roof planes and radial niches are cut in the soft granodiorite bed-rock. The entrances are straight or circular stair shafts. The plastered walls have geometric and human figures in black, red, and orange paint. The pottery found in these tombs is unlike that of other Colombian styles. It has been compared to Amazonian types 9 (Marajó Island urns).

The tomb illustrated here (Figure 79) measures 8·35 m. (27½ feet) on the long oval axis, and 2·28 m. (7½ feet) in height. The niches are separated by pilasters adorned with geometric faces, carved in relief and painted.¹⁰ Whether the tombs correspond, like Etruscan ones, to the domestic architecture of living people cannot be decided, in the absence of all traces of the dwellings above ground. The ovals with radial niches are superficially similar to European plans of the seventeenth century, but they bear a closer generic likeness to the organic architecture of earth and straw among West African tribes and in the South Seas. In actuality much evidence connects the Tierradentro tombs with Arawak

# THE NORTHERN ANDES: COLOMBIA AND ECUADOR

origins in eastern South America. The shafted deep-level tombs and the geometric wall paintings, as well as the pottery types, all point in that direction.<sup>11</sup>

# Sculpture

Adjoining Tierradentro on the south are the forested hills of a province surrounding the village of San Agustín near the headwaters of the Magdalena river. Scattered through the region (Plates 114–15) are some three hundred stone statues which served as grave markers, tomb covers, and shrine figures. They represent men, animals, and monsters, in relief and full-round sculpture. The stream-beds also are carved in channels and basins to form ornate biomorphic patterns of standing and running water. Because of a general resemblance to the art of Chavín in the north highlands of Peru, all this sculpture has been assigned to the Early period: On stylistic grounds, its date has been equated with the period of Olmec sculpture in eastern Mexico, that is the first millennium B.C.

There is still no absolute measurement of the antiquity of these remains. The shrine sites have all been so thoroughly disturbed by treasure hunters that scientific excavation is no longer possible. Pérez de Barradas nevertheless claimed to have found stratigraphic evidence to warrant the division into initial, intermediate, and final stages of a historical development beginning long before 150 B.C., and closing about A.D. 700.<sup>13</sup> The hypothesis is not improbable, but the opening dates are perhaps too late in the light of the radiocarbon chronology of comparable styles elsewhere.

As with the Tierradentro tombs, Pérez de Barradas tried to establish a chronological sequence of sculpture based upon his classification by types. He noted three main categories: cylindrical figures; full-round figures carved in deep relief; and slab-like figures in low relief, and assumed that they appeared in this order. A standing human figure is almost invariably represented, often with the dentition of a puma. The proportions favour the head, which is a third or a quarter of the entire height, and the sculptural definition of the heads is usually greater than that of the bodies.

The sculptors used three principal conventions to represent facial features. They are systems of combining the eyes and nose. One large group of figures always keeps the eyes and nose in a single flat plane, with a continuous curve outlining nose and eyes. This we shall call the 'eyehook' curve (Plate 114, left). The second group is more beetle-browed: the eyebrows make a continuous ridge across the forehead, and from this ridge the nose is developed as an independent sculptural unit (Plate 114, right). There are plain and ornate versions of the beetle-brow manner; the ornate version is like a double ox-yoke (Plate 115, left). The third group reduces eyes and nose to flat relief in two planes: this device could be regarded as a variant of the eyehook style, save for the fact that the nose is so broad-nostrilled as to suggest a dish from which the eyebrows rise as opposing curves (Plate 115, right). This third manner appears mainly on flat slabs.

It is significant that each mode of treating the features occurs at a separate shrine in the region. These shrines are temple-like constructions, locally called *mesitas*, rectangular in plan (up to 10 by 15 feet), roofed by a single monolithic slab, and supported by walls, piers, or Atlantean figures. The principal statue stood near the centre of the shrine, and

the whole construction was covered with an earthen mound. The main mesitas near the town of San Agustín are three, A, B, and C. A has east and west mounds about 20 m. (65 feet) apart. B stands 180 m. (200 yards) to the north-west of A, with southern, northern, and north-western mounds. C lies 400 m. (450 yards) west of A.

The eyehook style occurs on scattered sites throughout the district, and at Mesita B in all three mounds, but not at Mesitas A or C. The beetle-browed figures characteristically occur at Mesita A, and more rarely at Mesita B. The flat-relief faces, finally, occur frequently at Mesita C (rarely at B). This distribution strongly suggests the activity of different workshops of sculpture, spread out over many generations, but it gives us no sure clue to the seriation of the figures.

Some of these are enormous: one in Mesita B at the north-west mound, called the Bishop because of its mitre-like head-dress, stands 4.25 m. (14 feet) high. Their meaning is unknown. Some students have guessed that a very early lunar cult was displaced by solar worship, borne by an invading population which replaced the earlier moonworshipping inhabitants. He by this supposition, the moon-people are identified with the Chavín period of Peruvian prehistory; the sun-people supposedly were the contemporaries of the builders of Tiahuanaco. Stylistic and iconographic parallels support these comparisons. Colossal stone figures recur at Chavín and Tiahuanaco, and the monster with another creature in his mouth is also a central Andean theme. The alter ego figure or costume, as we have seen it in the lake sculptures of Nicaragua (Plate 112B), occurs at San Agustín as well as in the pottery of the Peruvian coast and in stone figures from the Amazonian basin. 15

# Metalwork

Colombian gold-work has a long history of uncertain duration.<sup>16</sup> Three technological stages are postulated. The earliest process was to cold-hammer and emboss the native gold found as dust and nuggets in streams and open rock faces. Colombian gold is argentiferous, but the ancient smiths never learned or cared to work silver separately. The second stage was to heat the metal until it melted: molten copper and open-mould casting were supposedly the principal achievements. In a third stage, smiths succeeded in alloying gold and copper. Called tumbaga or guanin, the alloy (ideally 82 per cent gold and 18 per cent copper) has a lower melting point than either metal in separation, and it can be hammered to hardnesses like those of bronze. This great invention has been ascribed to Colombian goldsmiths. A specimen of tumbaga was discovered at Copán beneath Stela H, dated A.D. 522 (9.17.12.0.0).<sup>17</sup> Other attainments of this stage were gilding and plating; mise en couleur by acids to remove the baser metal from the surface of an alloy; soldering; and lost-wax casting.

The arguments for greater antiquity than in the central Andes are weak. Silver, lead, and bronze were unknown in ancient Colombia, where the repertory is much smaller than in Peru or Mexico. Datable examples of stages 1 and 2 have never been identified. In stage 3, at least seven different regional styles have been provisionally established. The separation into regional styles and periods has been made difficult by many centuries of commercial grave-looting, and by the trading of objects throughout the

Colombian Andes and into Central America. For instance, the region around Antioquia at the convergence of overland routes from the Caribbean to the Pacific was an important trading centre where Pacific salt was exchanged for highland products. <sup>18</sup> The shaft-graves of this region yield gold-work from nearly every province of Colombia.

Pérez de Barradas has provisionally arranged the geographic styles in two chronological groups. <sup>19</sup> The early one comprises the Calima, Darién, and Tolima styles; it precedes Quimbaya, Sinú, Tairona, and Chibcha. Pérez de Barradas admits that this grouping rests on 'suspicion' more than evidence. His 'early' group mainly includes embossing and the simpler castings, and the 'late' one has more complex castings and ornate filigree work. The 'late' group is supported by Lothrop's discovery of Sinú and Quimbaya gold objects in the Coclé area of Panamá, no older than 1300. <sup>20</sup>

The Calima Style.<sup>21</sup> The Calima river flows west towards the ocean, and its valley was a main thoroughfare for trade between the Cauca drainage and the Pacific Coast. Several hundred gold objects from the upper reaches of the river display a technique and style sufficiently uniform to justify a common designation, even though many different tribes during several centuries may have participated in their manufacture. Pectorals, diadems, nose ornaments, and pins are the principal items. Tumbaga alloys of varying ratios between gold and copper are the rule. The metal was hammered into sheets of ornate profile, or cast by the lost-wax process into pins with minute figures on their heads. Pérez de Barradas suggests that the Calima style is the oldest in Colombia.<sup>22</sup> Among resemblances to the sculpture of San Agustín he noted two important facts: the San Agustín statues wear head-dresses and jewellery of Calima types; and many Calima pinheads are replicas of a San Agustín figure with rectangular mouth and eyes. The contemporaneity of the two styles seems assured, but their absolute date remains uncertain. Pérez de Barradas <sup>23</sup> fixes the high point of Calima production about 700, and its disappearance about 1000.

The meaning of Calima shapes is enigmatic. A typical form is the kidney-shaped pectoral (Plate 116A). A standard element in many graves, it usually has a face with closed eyes, hammered up from the sheet metal, wearing a head-dress like that of certain San Agustín statues, and adorned with large ear-rings and an H-shaped nose ornament. This nose ornament may represent the skin of a puma: at its centre a simple feline mask is embossed, often flanked or surrounded by clusters of dots like spotted fur. The closed eyes of the mask are often rendered by the beetle-browed convention resembling an oxyoke (Plate 115, left), which we have seen in San Agustín statues. Calima smiths treated gold as if it were leather, as a pliable and impressionable substance, normally to be embossed over hard moulds of stone or wood, and repoussé with dies and punches.

The Calima pins with heads representing men and animals are about 12 inches long. These tumbaga pieces are lost-wax castings with soldered additions of intricate detail on a minute scale, on figures about an inch high (Plate 116B). Frequently shown is a masked figure wearing a domed face-cover with slotted apertures like a Hopi katchina. On his back a four-footed animal (a puma?) crouches in the posture of the representations of animal totems at San Agustín and in Nicaragua.

The Darién Style.24 The Atrato river empties in a tropical flood plain on the Caribbean

side of the base of the Isthmus of Panamá. *Tumbaga* casts of bat-headed human figures (Plate 117A) are the only type now assigned to the region. They resemble a bat-figure occurring in Calima graves. The two hemispherical ornaments in the head-dress represent large bat's ears. The objects in the hands are rattle gourds, and the filigree scrolls flanking the head represent wings. The conversion of human forms into planes and scrolls is a Darién characteristic. It also reflects a simpler casting process, possibly in an open stone mould, with extra planes added by soldering. Another example of this type was dredged from the Well of Sacrifice at Chichén Itza. It is a knife rather than a pendant. Lothrop interprets it as a 'flute-playing bird-god'.<sup>25</sup>

The Tolima Style. At the latitude of Cali, but on a western confluent of the Magdalena, lies the gold-working province of Tolima, near the headwaters of the Rio Saldaña. Metallic copper was abundant in the region, and it was exported to the Cauca basin – a region poor in copper – for use in tumbaga alloys. <sup>26</sup> The typical product is a flat casting of angular forms (Plate 117B) based upon birds, reptiles, and animals. Heavy cast-filigree increments sometimes adorn the faces. The profiles of bodies recall ideographs and the abstractly expressive designs of contemporary painting. Pérez de Barradas notes that no Tolima pieces occur in Calima territory, but that some of the finest examples of the Calima style appear on Tolima sites. <sup>27</sup> If the two styles are coeval, this distribution probably marks a one-way trade relation from metropolitan to provincial centres.

The Sinú Style. The valley of the Sinú river lies east of the Atrato. Tumbaga castings of pairs of birds with open backs like Veraguas forms are known, as well as flat filigree nose-bangles and pendants. These bangles may have been cast in moulds shaped on basketwork models.<sup>28</sup> The Sinú smiths also used carved stone reliefs for repoussé patterns.<sup>29</sup>

The Quimbaya Style. Long custom rather than a firm connexion between tribe and archaeology warrants the continued acceptance of this vague ethnic term. It is usually extended to include the makers of the celebrated cast-gold figures of seated and standing men and women, discovered at the end of the nineteenth century in the graves of the region between Cartago and Manizales. The Quimbayas were there when the Spaniards arrived, but the style appears throughout the middle Cauca valley to Antioquia, where other tribes lived. Quimbaya finds in Panamanian graves suggest a date after 1300 for the florescence of the style.<sup>30</sup>

In Colombia nearly all non-Chibcha gold objects used to be assigned to Quimbaya smiths until Pérez de Barradas identified the Calima embossed style. The Quimbaya group is now limited mainly to heavy castings with smoothly rounded surfaces (Plate 118A). The helmets, bottles, and statuettes in the Museo de América at Madrid are typical instances.<sup>31</sup> Other Quimbaya manufactures are cleft nose-ornaments designed to clasp upon the septum, in crescent, triangle, scalloped, and elongated shapes. There are also pectorals, bells, bracelets, beads, and pins, masks, tweezers, and diadems.

The statuettes were cast by the lost-wax process in moulds of clay and charcoal,<sup>32</sup> with hands and feet cast separately and soldered to the body. The forms of the bodies have an inflated or bloated appearance. Indeed, the weightless and sinuous Quimbaya surfaces recall the undulant tubes of Hindu figural sculpture,<sup>33</sup> but the resemblance is merely technical, arising from the casting process rather than from contact between

peoples. The nature of lost-wax casting required that the entire envelope be designed for pouring, and the molten gold had to find its way by gravity into all the crannies of the mould. The smooth portions of the bodies, the partly spherical joints, and the tube-like limbs all record these technical conditions for hollow casting under primitive circumstances.

The stiffly symmetrical postures and the absence of any suggestion of movement can be connected with regional traditions of manufacturing pottery figurines,34 such as the planiform seated images made by Quimbaya potters (Plate 118B). The hands and feet are diminutive; the surfaces have minimal variety; the contours are closed; and the expression is dead, as in the gold statuettes with closed slit-eyes and the posture of rigor mortis.

Among the Quimbaya statuettes, two types may be noted. One, a seated female of large-headed and sausage-limbed proportions, is represented in Philadelphia. The arms are diminutive, and the eye planes immense. The Madrid figures are more naturalistically proportioned: the limbs are longer, the expression approaches a smile, and the parts of the body are connected in anatomy as well as in the flow of molten metal into the mould. One figure of large-headed type (now in Berlin) reportedly comes from Manizales in the northern section of the Quimbaya territory. The Madrid figures were all found near the village of Finlandia in the southern section. Possibly the two types correspond to different geographic schools of Quimbaya gold-work, and to different generations. If the latter is true, the first group may be the older one on the usual assumption of typological progression towards anatomical fidelity.35

The Quimbaya tribes probably came from the north, displacing an older population in the Cauca Valley.36 Certain resemblances among Tairona, Darién, and Quimbaya pieces support the idea. For instance, a pendant in the Cleveland Museum has the doubleknob head-dress of a bat figure in the Darién style (Plate 119A), the spread-eagle and squatting posture of a Tairona pendant, and the facial features of Quimbaya work. Tairona gold-work, in the north-eastern corner of Colombia, in turn resembles Venezuelan productions. Both types are extremely rare, and it is more likely that Quimbaya, Tairona, and Venezuelan castings all belong to the same time-level as different styles, than that the northern ones should be ancestral to Quimbaya work. But in the absence

of any firm chronology, all remarks on sequence are guesswork.

The Chibcha Style. The tumbaga castings from the region around Bogotá 37 are the most planiform of all Colombian productions. Typical forms are elongated isosceles triangles of slab gold, with human features and costumes rendered by lost-wax casting upon moulds of waxen filaments. An unusually complex example acquired in Tunja shows a dignitary wearing a diadem, ear spools, and a necklace, all indicated by cast filaments (Plate 119B). He is seated upon a litter or dais made of braided filaments. A detachable panel in front of the figure represents a pair of fan-like insignia of rank. These figures, called tunjos, are traditionally believed to represent certain Chibcha rulers, and to have served as cult offerings. They were in manufacture at the time of the Spanish Conquest among people whose historical memory embraced only about fifty years.

# THE PACIFIC EQUATORIAL COAST

An immense artistic region extends along the Pacific coast between Tumaco in Colombia and Guayaquil in Ecuador. Its regional components in the provinces of Tumaco, Esmeraldas, Manabí, and Guayas are here treated together because of the occurrence of a distinct figural style with striking Mesoamerican affinities. Indeed the Pacific equatorial coast is the southernmost frontier of the traditions of Mexican and Central American art, with only occasional affinities to the art of the central Andes. No comprehensive explanation for this process of transplantation has been advanced, and the study of the problem usually stops with an enumeration of the resemblances to Mesoamerican and Andean types.<sup>38</sup>

Influences from the central Andean styles are weak, late, and few, indicated by such forms as divergent double spouts connected by strap handles, double vessels and house vessels, negative painting, the syrinx or Pan pipe, and the representation of pathological deformations and erotic scenes.<sup>39</sup> The latter, however, are also present in Late Classic Maya art. All other pottery forms relate to types prevailing north of the Isthmus of Panamá, such as flat stamps, cylinder seals, biomorphic figurines, and ocarinas. Certain themes, such as persons strapped to their beds, evoke west Mexico.<sup>40</sup> The stone sculpture of Manabí includes seats borne upon the backs of crouching human beings, as well as Atlantean figures, to which the closest parallels are Central American and Toltec Maya.

The chronology of the Ecuadorean coast style is insecure. An Inca period at the conclusion of pre-Colombian times was very brief, preceded by a long period in Manabí, called Manteño. Bushnell has identified a pre-Manteño style in the province of Guayas, at Guangala, without attempting an absolute date. In the opinion of J. Jijón y Caamaño, <sup>41</sup> the Guangala corresponds to the Mochica style in Peru, and Manteño to Chimu. In effect, Guangala objects display an advanced style of modelling, comparable to the mid-Classic Maya art of figurines, and to early Mochica attainments in Peru. Guangala figurines (Plate 120A) are easily recognizable: they are usually whistles made of a dense and fine burnished red ware, scored by incised parallel lines in rectangular patterns near the joints of the body. Similar figurines have been found in Manabí and Esmeraldas, <sup>42</sup> but not in Tumaco. Mould-made figurines (Plate 120B) are common, especially in Esmeraldas and Tumaco, where they are probably later than the hand-made Guangala examples, corresponding perhaps to the Manteño phase. <sup>43</sup>

Stone sculpture of monumental character appears only in Manabí (Plate 121, A and B). Typical 44 slabs are carved with frontal human beings framed by borders of repeating textile-like patterns. Both these slabs and the simpler stone chairs may be pre-Manteño. The ornate stone chairs are presumed by Bushnell to belong to the Manteño period. The latter are deeply concave; the plain ones have shallow seats. A slab illustrated by Saville 45 shows a woman seated with splayed legs upon a shallow throne, in an 'obstetrical' posture. Both slabs and chairs were found in enclosures marking the boundaries of dwelling compounds.

Bearing in mind the Mexican methods of figurine construction, we may attempt

to extend the earlier history of the Ecuadorean sequence. The characteristic Mexican development, first established by Vaillant for the Valley of Mexico, began with features made by pellets of clay added to a core. Filleted features, rendered by ribbons and bands of clay, gradually displaced the pellets. The sculptors next achieved a faithful image of the organic envelope by passages of continuous modelling, forsaking the additive techniques of pellet and fillet. Finally the use of the mould degraded the craft, not only by extreme complication, but also by coarse production in series. The Guangala and Manteño types in Ecuador correspond roughly to the stages before and after the appearance of the moulding technique. The published collections of Manabí and Esmeraldas objects, however, contain numbers of figurines with 'coffee-bean' eyes. The type is common in Mesoamerica, and rare in the central Andes. One figurine of Guangala type has these eyes. The Perhaps the Manabí and Esmeraldas examples are pre-Guangala. On the Esmeraldas coast, the Ostiones river appears as the centre for the type, to judge from the examples published by R. d'Harcourt. Slit coffee-bean eyes and punctate eyes are common in the Manabí collections as well.

Among these types which may be pre-Guangala appear some of the finest productions of the art. A head in Paris from the Ostiones district in Esmeraldas can be ranked among the more expressive and harmonious of ancient American figurines. The rear of the head shows a tabular deformation, associated with Guangala types and with examples having coffee-bean eyes. Shells cover the ears. The straight profile and the huge upper eyelids resemble Gulf Coast faces of the 'smiling' type. In expression this type (Plate 120B) also recalls the withdrawn, remote Quimbaya statuettes of gold.

The highland of Ecuador is divided into northern, central, and southern groups, with Colombian affinities in the north, and Late Peruvian connexions in the south. For the central highlands a long stratigraphical sequence without artifacts of high quality spans 2000 years (Early, Proto-Panzaleo; Middle, Tuncahuan, A.D. 1–750; Late, Puruhá).<sup>47</sup> As Donald Collier has put it, Ecuador forms with Colombia a north Andean unit, only slightly connected with the central Andes under Inca rule.<sup>48</sup>

#### CHAPTER 12

# THE CENTRAL ANDES: EARLY NORTHERN PERU

The Pacific Coast and the highlands of Peru, together with the Bolivian plateau, compose the central Andes. Cajamarca in northern Peru is isolated from southern Ecuador by several hundred miles of forested mountains and desert coast. On the east the tropical forests of the upper Amazon hem in the culture of the central Andes, and on the south the Atacama desert separates it from southern South America. From Ecuador to Chile, the central Andes extend for over 1000 miles, in a strip ranging from 50 to 250 miles wide. Here many interrelated civilizations all share a common historic tradition, quite distinct from those of lowland South America and the northern Andes.

Central Andean life was predominantly urban, differing from Mesoamerica by the early importance of metallurgy and weaving. Building in the Andes lacks the spatial complexity of Maya and Mexican architecture. No system of writing, other than knotted string records, is known, unless Larco's hypothesis, that the marked beans of the north coast constituted writing, be accepted.<sup>2</sup>

For our needs the clearest division is by northern, middle, and southern regions. Northern Peru is separated from middle Peru along a line perpendicular to the coast at the Huarmey river. A similar line perpendicular to the coast just south of the Cañete river divides central Peru from the southern region, which includes parts of Bolivia. Northern Peru, like the rest of the central Andes, has a coastal desert interrupted by short rivers draining the western slopes of the maritime Cordillera. Beyond it are the Black and White Cordilleras, making three parallel chains with isolated highland basins scattered among them.

In the lower half of northern Peru, through the department of Ancash, the Santa river flows north between parallel mountain chains in a long valley and drains suddenly, at right angles to its upper course, into the Pacific. On the east, and parallel to the Santa, is the Marañón river, a tributary of the Amazon. The Santa river is the centre of a cluster of valleys where civilizations of the early period flourished. From its western mountain boundary, the Nepeña, Casma, and Huarmey rivers flow into the Pacific. Between the Santa and the Marañón stands Chavín de Huántar, the type-site for the most widely diffused Peruvian style of the early era, prior to the time of Christ. Its home territory coincides with the modern department of Ancash. Here are the most abundant and imposing traces of the Chavín style; north and south of Ancash, it is more scattered and sporadic.

The upper half of northern Peru, towards the Equator, contains the most important remains of two principal later stages of cultural development. Between the Santa and the Chicama rivers is the seat of the Mochica style, sometimes called Moche after the type-site near Trujillo.<sup>3</sup> Mochica is coeval with Classic Maya art. Later on, and coeval with the Toltec rule in Mesoamerica, the Chimu dynasty established a powerful state

# THE CENTRAL ANDES: EARLY NORTHERN PERU

in these same valleys. Its influence is apparent in the art of the northern valleys as far as Piura and Chira.

The north highlands were even more discontinuously settled than the coast, in basins about 200 miles apart, separated by mountain ranges and barren plateaus. Because communication between the basins was difficult and infrequent, the dwellers in each were more likely to go downstream to the nearest coastal valley than to adjacent highland basins. The upper Santa river forms such a basin, called the Callejón de Huaylas. It is the least inaccessible. The others surround Cajamarca, Huamachuco, and Huánuco, which connect with Pacasmayo, Chicama, and Paramonga on the coast more readily than with one another.

In brief, the lower north coast harboured the oldest remains of monumental art in Ancash. The upper half was the home of the Mochica theocracy in Classic times, and of the Chimu urban state after 1000. The question of the exact origin of the coastal styles is still unsolved. It is improbable that the isolated dwellers in the Peruvian mountain valleys should have originated and exported the complex skills and traditions which appear in coastal urban life. The resemblances between the Olmec art of Tlatilco in the Valley of Mexico and the coastal Chavín style in Peru strongly favour the thesis of connected traditions during the first millennium B.C.<sup>4</sup>

# PRE-CHAVÍN REMAINS IN THE NORTH

Radiocarbon dating for the first appearance of the Chavín style in the Virú valley places it in the ninth century B.C. at the latest.<sup>5</sup> It intruded upon the remains of an ancient fishing village near Guañape, where pottery had been made since about 1225 B.C. Before that, the radiocarbon dates for pre-ceramic coastal villages go back to 2700 B.C. at Huaca Prieta in the Chicama Valley. The beginning of agriculture in the region has been fixed at about 3000 B.C.

Huaca Prieta is a habitation midden 125 by 50 by 12 m. (400 by 150 by 40 feet) deep, made of refuse, laid down by fishing folk at the rate of 3 feet each century from 2500 B.C. until 1200 B.C. After 2000 B.C., they excavated their dwellings in the rubbish of previous generations. They lined the rough square or oval rooms with beach pebbles, and they roofed them with beams of wood and whalebone. These few hundred families made no pottery, but they grew cotton, beans, and peppers, and they made simple patternedwarp cloths of brown and white cotton, sometimes dyed blue and rubbed with red. Similar middens of pre-ceramic date have been discovered in the Virú Valley and south of the Nazca Valley.<sup>6</sup>

The earliest Peruvian pottery – Early Guañape in the Virú Valley (1225–850 B.C.) – is undercoated black or red ware, built by coiling, and poorly fired. It is inferior to the middle Guañape pottery in the Chavín style. Middle Guañape, associated with the earliest corn agriculture, must be an intrusion. It probably began peacefully, as no signs of rupture or violence accompany its appearance in the middens.

In the Chicama Valley near Huaca Prieta are ruins of pre-Chavin date (Plate 122).

The pottery is like Early Guañape, but it occurs in houses with walls above ground, made of stacks of cylindrical and muffin-shaped adobes. The interstices between the upright cylinders were filled with mud. Large rectangular adobes laid on edge appear as early as the pre-ceramic levels at Guañape. Hence the cylindrical adobes, both tall and flat, may mark the transition from pre-ceramic villages to the corn-growing, pottery-producing society of the ninth century B.C., i.e. of Chavín date, when conical adobes became standard on the coast.

# EARLY ANCASH ART

The Chavin style is named after the type-site at Chavin de Huántar, on a small tributary of the upper Marañón. The department of Ancash has the only important Andean buildings of pre-Classic date. One group is restricted to the Casma and Nepeña Valleys. It exhibits a style typified by Cerro Sechín, which is probably older than the other group, represented by Chavín de Huántar in the highland. It is here assumed, for reasons set forth below, that Sechin preceded Chavin. The Chavin style in turn falls into early and late phases, spanning an extremely long period, so that the sequence of Early Ancash styles, for our purposes, may be summarized Sechín, Early Chavín, Late Chavín. In current use, however, Sechín and Chavín are not separated chronologically. The term Chavin has always been over-extended. Since 1919 it has come to mean less and less in an ever-widening circle: a style of art, a period of time, a 'horizon' or archaeological marker, a 'culture', and even an 'empire'.8 G. Willey has criticized these extensions. He restricts Chavín to a stylistic definition and to an iconographic tradition, both related to a religious system of early date in the central Andes.9 This religion centres upon the worship of feline and other monsters symbolic of natural forces, among villagers possessing the newly-introduced maize agriculture, carved and incised pottery, weaving, and early metallurgy. The style, the iconography, and the functional setting are closely analogous to those of Olmec art in Mesoamerica. Indeed the Chavín and Olmec styles are probably related historically by unknown links, visible at Tlatilco in the Valley of Mexico.10

Securely dated material comes from the Chicama Valley, where a roof timber associated with Chavin-style pottery and corn agriculture gave a radiocarbon date of 848 B.C., ± 167 years. A terminal date can also be offered. Fragments of the style and the iconographic tradition persisted in Mochica art, until at least about A.D. 500. At Chavin proper, furthermore, the ornamental style shows influences from the Nazca region which can now be ascribed to the sixth century. Thus Chavin art is a north Peruvian phenomenon, with occasional manifestations in central Peru, as at Ancón and Paracas. It endured at least thirteen centuries as a recognizable constellation of form and meaning.

The architectural forms are grandiose terraced platforms. The sculptural repertory includes full-round and relief carvings, based upon a few ideographic ciphers drawn from feline, reptile, fish, bird, and human figures. These are compounded in monstrous

### THE CENTRAL ANDES: EARLY NORTHERN PERU

hybrids such as a bird's wing with tiger's teeth at the base of each feather (Figure 85). Embossed gold objects bearing Chavín forms are possibly the earliest metal products in the New World.<sup>14</sup> The principal remains of the Chavín style in Ancash are at Cerro Blanco in the Nepeña Valley, and Chavín de Huántar.

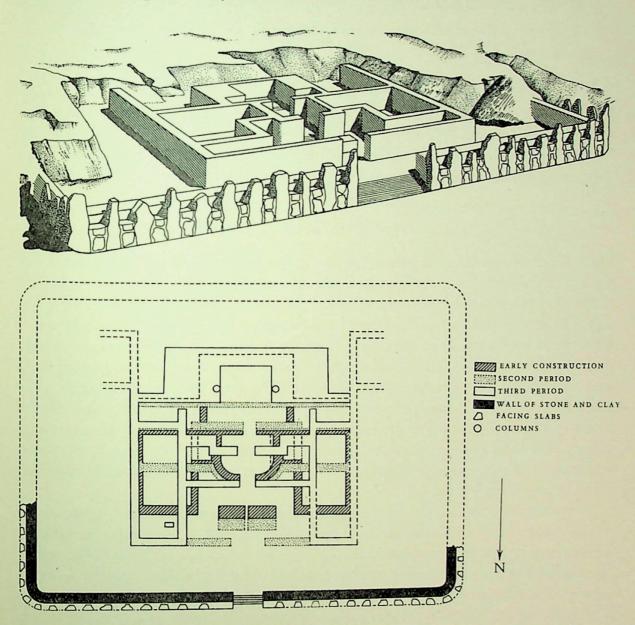


Figure 80. Cerro Sechín, temple platform, first millennium B.C. Perspective section and plan

Another style, more closely bound to visual images and more generous in sculptural expression, appears at Cerro Sechín in the Casma Valley, and at Moxeke and Punkurí in the Nepeña Valley. Its date is still uncertain. All students agree that the Nepeña Valley contains Chavín manifestations, but Larco regards it as the most ancient of Chavín territories, while Tello considered both Nepeña and Casma as provincial manifestations of an earlier highland style visible at Chavín de Huántar. Strong and Evans support Larco's opinion, giving priority to the coastal appearances of the Chavín style.



Figure 81. Cerro Sechín, temple platform, orthostatic reliefs on the revetment, ninth century B.C. (?)

In either case two main phases of the Ancash style can be defined. One includes Cerro Sechín (Figures 80, 81), Moxeke, and Punkurí. It has powerful sculptural forms, close to natural appearances. The other stage is represented both at Cerro Blanco in the Nepeña Valley (Plate 124) and at Chavín de Huántar, by linear designs in dense symbolic compounds. Many centuries probably separate the two eras.

# Cerro Sechín

Cerro Sechín is a granitic hill dominating the lower Casma Valley at the confluence of the Sechín and Moxeke rivers.<sup>17</sup> It was fortified in antiquity with numerous walled enclosures surrounding the dwellings and temple platforms. Near each enclosure is a cemetery. The several settlements, connected by paths, were furnished with water from reservoirs and aqueducts. Tello considered them the dwelling compounds of the various lords of the valley fields. They lived on these barren slopes not only for security from abrupt floods and from invasion, but also to reserve the precious arable flood plain of the valley for agriculture. The largest compound lies on the north side of the hill, with the temple platform (Figure 80) at the foot of a bowl-like slope. The platform was faced with dressed and carved granite slabs (Figure 81), brought from an older construction farther down the slope, which was covered by alluvium during an ancient flood before the end of the Chavín style.

These slabs may well be the most ancient example of monumental sculpture in the central Andes. They were arranged in a post-and-infill system, of narrow upright reliefs alternating with wall sections of smaller squarish stones between the tall uprights. The effect is like that of fence-post construction. On the upright slabs, ranging in height between 1.60 and 4.40 m. (5½ and 14½ feet), are incised human figures in profile, ideogrammatic representations of implements, severed trophy heads, and spinal columns. The standing, armed warriors on the posts (Plate 123A) seem to display the grisly trophies shown on the smaller panels, as they move in symmetrical files leading from the west and east walls round the corners towards a recessed central staircase on the north façade. The carving shows two types of incision. The outer contours of the bodies are given by bevelled cuts: a sloping face marks the outside and the vertical face marks the inside of the form. Interior outlines such as lips or eyelids are given by simple, shallow incisions without a bevelled side. In technique and in processional composition, these reliefs are like the Danzantes at Monte Alban (Plate 47), though no direct historical connexion can be supposed.



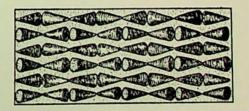
The platform itself rose perhaps a dozen steps, with the upper portions of the processional reliefs forming a wall to surround the platform terrace. The temple proper was built of conical adobes on a rectangular plan enclosing chambers symmetrically arranged to open out from the central entrance axis. Tello reported three phases of construction. The regular bilateral symmetry of the edifices was enhanced by affronted red jaguars painted on the walls flanking the outer entrance.

Conical adobes laid point to point, with the circular bases forming a pattern of roundels on the wall faces, are characteristic of the Chavín style along the coastal valleys where stone was scarce. Their use has been assumed to mark a period of Chavín ascendancy on the coast. They form part of a sequence, however, which began with cylindrical and muffin adobes long before the appearance of the Chavín style. Conical adobes probably continued through the changing modes of coastal architecture until the general acceptance of parallelipipedal adobe bricks in the early centuries of Mochica domination.

Figure 82 shows methods of wall-building with conical adobes. Point-to-point position allows equal volumes of brick and amorphous clay, and it permits regularly patterned wall surfaces of agreeable appearance. The second method shows bonded corners, which are rare in America, with facing bricks like deeply tenoned masonry surrounding a core of interlocking conical bricks. The third method requires the closest interlocking of brick with brick at all points, and it uses the least amount of clay mortar. These techniques were probably contemporaneous, serving different structural or functional requirements. Gabled roofs of timber and straw rested on the massive walls. Their appearance is recorded by pottery vessels in the Chavín style, of which the manufacture was limited to the coast. Nothing of the Sechín roofs survives today, after many genera-

tions of plunder by treasure-hunters. The conical adobes are the firmest assurance of a date close to the early Chavín style, but when we examine the correspondences between Sechín and Chavín forms, their contemporaneity is not at all apparent. As we might expect, adobe brick shapes were less sensitive to secular change than figural forms. Conical adobes probably preceded and outlasted the Chavín style.

Stylistic resemblances between the Sechín and Chavín styles are very faint. The Sechín sculptors show simplified ideogrammatic schemes close to visible reality. They report the facts of warfare and head-hunting directly, unlike the makers of



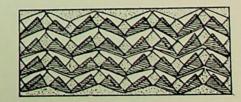


Figure 82. Diagrams for wall construction using conical adobes, first millennium B.C.

the Chavín reliefs, whose monstrous combinations of various forms of life lead the mind into an associative labyrinth of ritual symbols, organized more like metaphorical allusions than direct expository statements.

There are no monsters in the Sechín repertory. Entirely absent are the feline dentitions, the animal-headed joints, and the reduplications or substitutions of the Chavín style. Only by an occasional trait can a connexion be established; the fence-post order of the stone wall facings, the facial stripe curving from eye to ear, and the elongated thumbnails shown in profile are the strongest evidence we have. The two styles seem divergent yet connected: they may be early and late expressions, or tribal variants, of the same tradition. In either case, the Sechín style appears to be the earlier of the two. A soapstone cup in the Bliss Collection bridges the gap between Sechín and Chavín. On its base is a head in profile with a curving Sechín stripe from eye to ear, and the feline dentition typical of the Chavín style. On the cylindrical wall, in low relief, a two-headed, eight-legged animal appears, with Chavín toe-nails and feline facial traits. There is another stone vessel with this form in the Larco Collection now at Lima. Both pieces are of unknown provenance.<sup>19</sup>

# Moxeke

Moxeke lies about two miles south-east of Sechín. It is a pyramidal platform of eight terraces, rising a hundred feet above the level flood-plain, near an L-shaped intersection

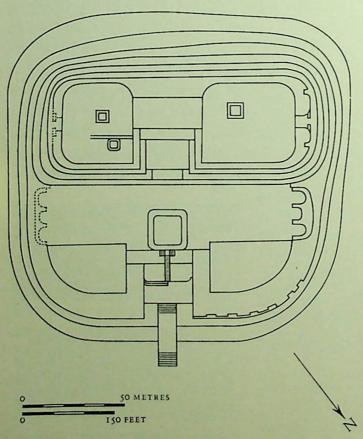


Figure 83. Moxeke, platform-temple, ninth century B.C. (?). Plan

of two axial files of rectangular plazas. The pyramidal platform built of conical adobes (Figure 83) stands a little apart from these plazas, which may be of later date. It is much larger (165 by 170 m.; 540 by 560 feet) than the Sechin pyramid, and it has carved clay reliefs instead of stone sculpture. A free-standing stair protrudes beyond the north-west face, rising by six steps to a portico on the first terrace. The second flight, of five steps, through the second terrace face to a wide landing. From it the third and longest flight rises, and it splits at the head into two small opposing flights. The fourth terrace is divided into four quadrants.20 The level of the southern pair is higher than

### THE CENTRAL ANDES: EARLY NORTHERN PERU

that of the northern. In each quadrant, a platform rises. The northern pair is smaller in plan than the twin southern ones, so that the highest points are on top of the larger southern platforms. All terraces have rounded corners.

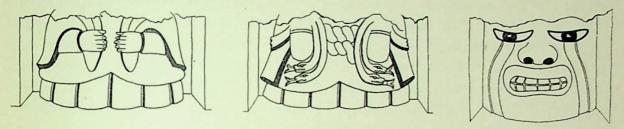


Figure 84. Moxeke, modelled stucco figures on third stage riser, ninth century B.C. (?)

The north-western face of the third terrace on the principal platform is adorned by six deep niches containing carved and painted clay figures of colossal dimensions (Figure 84). Only the lower portions survive, painted red, black, blue, and white. They are of smoothed clay over cores of conical adobes. Each niche is nearly 4 m. (13 feet) wide, and 1.7 m. (5½ feet) deep. Between the niches are salient faces 4.45 m. (14½ feet) wide, also adorned with polychrome relief carvings on clay. Facing north at the rounded corner are two smaller niches, with colossal heads 2.4 m. (8 feet) wide by .90 m. (3 feet) deep, painted green, white, red, and black.

These figures all resemble those of Cerro Sechín more closely than those of Chavín. The fluted skirts of the niche-figures (I-IV) are identical with the ones of severed torsos on the Sechín slabs. The salient panels between the niches bear serpentine convolutions like those of the standing warriors at Sechín. The colossal head in Niche V, finally, wears curved stripes of red face-paint, as do the standing Sechín warriors.<sup>21</sup> The only trait connecting Moxeke directly with the art of Chavín appears in Niche IV, where four serpents painted red and blue dangle from the arms of the human torso.

### Punkurí

Punkurí in the Nepeña Valley is a terraced platform facing north-north-west. It is split by a stair of two flights separated by a landing. Near the bottom of the upper flight is a painted jaguar modelled of clay over a stone core (Plate 123B). On a wall of the chamber behind this stair are incised wall decorations in the Classic Chavín style. Thus Punkurí, alone among the coastal sites, contains both styles: the full-rounded and veristic Sechín manner (Punkurí jaguar), as well as the schematic linear design of the Chavín wall decoration.<sup>22</sup>

S

# Chavin

Unlike the sculptors of Sechín, the Chavín artists lacked the means of marking individuality, or of telling a story. A few highly stylized signs convey the entire content of this art. Linear designs, of an extreme degree of abstraction, compounded of parts of bodies, are common to several sites in the highland and at sea-level. On the coast the designs are carved in smoothed clay (Plate 124) and pottery; in the highland they are incised upon architectural facing slabs, cornices, and pottery (Figure 85). The highland centre is far larger and richer in variety than the coastal site at Cerro Blanco. Both differ from other coastal sites in Ancash, such as Punkurí, Moxeke, and Cerro Sechín, principally in the method of composition, which is the substitution and repetition of the motifs of parts of human bodies. In the Chavín style, heads in profile are doubled to read as frontal representations. Certain frontal heads, when seen upside down, still present right-side-up images (Plate 127). Such double-profile figures and anatropic (reversible) images appear sporadically in pottery and metalwork throughout the central Andes, but the monumental examples occur only at Chavín and in the Nepeña Valley.

Chavin de Huántar. The steeply walled platforms, honeycombed with stone-lined passages and surrounding a sunken plaza, are unique among temple groups in pre-Columbian America. Only Maxcanú in Yucatán,<sup>23</sup> or Mitla in Oaxaca can be compared with Chavín. The Maxcanú platform is much smaller, and the Mitla palaces were residences, quite unlike the labyrinthine recesses in the platforms at Chavín. The relation of the masses to enclosed volumes is like that of a mountain range, where geological formations enfold caves and vents of bewildering complexity. No accurately measured plan has been made.<sup>24</sup> The entire visible group extends some 200 yards along the west bank of the Mosna river, with platforms grouped around a sunken plaza 48 m. (160 feet) square.

The principal edifice looks east across the plaza. Called the Castillo, it is faced with cut stone blocks in courses of varying widths. These walls rose about 50 feet, above a great pedestal of cyclopean blocks, uncovered by Tello along the western front of the Castillo. Inside the core are at least three irregular storeys of stone-lined galleries, chambers, and ventilating shafts. On each level, these were built, like the facings, before the infill was packed in.

At the south-west corner the outer masonry of the Castillo is adorned with grotesque heads tenoned into the facing, beneath an overhanging cornice incised on edge and soffit with profile jaguar bodies in the 'normal' Chavín style. The north-east corner likewise bore incised reliefs of stylized condors (Figure 85). Within one of the stone-lined chambers a stone prism, 4.5 m. (15 feet) tall and incised with feline grotesques, marked the centre like a lance-point (lanzón) thrust through the platform down into the chamber (Plate 125). In the sunken plaza a slab of regular form (the Raimondi Monolith) stood upright in the centre, incised on all four faces with animistic symbols compounded in 'ornate' Chavín style (Plate 127).

The rough chronological sequence of these sculptural elements is suggested by their positions. The lanzón, deep in the interior, may be the most ancient. The cornice slabs

of the outer facing are probably more recent. The Tello Obelisk (Plate 126) and the Raimondi Monolith are undated. The original position of the Raimondi Monolith is uncertain. According to reports collected by Bennett from local people, it stood on the west terrace near the sunken plaza, until its removal to Lima by Antonio Raimondi, the geographer, in 1874. In style, however, these two reliefs resemble Nazca pottery painting more than the lanzón or the exterior sculpture of the Castillo. Their intricate metaphorical decoration suggests a terminal phase of the Chavin style, under Nazca B influence, as late as the sixth century A.D.25 Two main periods at Chavín de Huántar therefore are indicated: an early one, including the Castillo sculpture (Figure 85), and a late one, represented by the Tello Obelisk and the Raimondi Monolith (Plates 126 and 127).

The early ('normal') style is characterized by intact silhouettes of men, jaguars, and condors, contain-

Figure 85. Chavín de Huántar, temple platform, north-east corner, cornice soffit with incised slabs showing condors, seventh century B.C. (?)

ing intrusions and substitutions from other orders of life in the parts of the body and at the joints. The lanzón, for example, represents a standing human being with feline teeth and serpent hair (Plate 125). The cornice slabs of the Castillo represent jaguars in profile and condors in spread-wing dorsal view. The jaguars' tails, however, are feathered, and the condors' wings have jaguar masks in profile at the base of each feather (Figure 85). But these substitutions are internal and they do not break up the silhouette.

The late ('ornate') style was more properly labelled Style N by Kroeber in 1926, to indicate its Nazca affinities, but we here insist upon early and late to stress the probability of very long duration for Chavín art. The Tello Obelisk and the Raimondi Monolith both show an ornamental prolixity that spills out beyond the organic silhouette. The obelisk is difficult to read: the elongations, substitutions, and peripheral complications are so dense that it is impossible at one glance to determine the relationships of all these parts. By long study, and by adding the parts together in the mind, one arrives at a synthetic version of the two rampant felines incised in profile upon the quadrilateral prism. Each stands on its tail, with front and rear paws pointing up and down respectively. Every body area contains substitutions: thus the spinal column is treated as

a long row of feline teeth. The two felines in profile are probably meant to represent one animal: left and right, back and belly have been re-arranged as a prismatic sleeve of incised shapes so that the creature has four legs and two sides (Plate 126).

The Raimondi Monolith <sup>26</sup> is of diorite. Its rectangular frame (1.95 by .74 m.; 6½ by 2½ feet) determines the general rectilinearity of all the parts. The human body fills only one-third the length of the slab (Plate 127). This square figure can be read either as a standing staff-bearer, or as a human being in descending flight. In the first position the top of the slab consists of head-dress elements in repeating series; in reverse position, this series becomes a bear-like pendant. Probably the slab was once used as an overhead roof-panel, for its design requires viewing from both ends, in the anatropic scheme that also characterizes Paracas textiles (c. third century A.D.).

Cerro Blanco in the Nepeña Valley has never been adequately published.<sup>27</sup> It is a platform with stone walls covered by carved and painted clay reliefs in the zoomorphic system of the early Chavín style, as on the cornice slabs of the Castillo at Chavín de Huántar. It represents a bird with out-spread wings (Plate 124). The head is a low platform, with the body, wings, and tail formed by low-walled terraces at the sides and rear. These platforms were later covered by another construction of small conical adobes. Tello believed that the blanket edifice was built specially to hide the carved clay walls underneath, painted in red, white, blue, and green. The scale is much larger than anything at Chavín proper, and the colours also differ from those of the highland site, but the compositional device, of two bird-profiles forming a frontal jaguar-mask, is of Chavín type.

In summary, the natural subject matter of Chavín art comprises very few motifs, all subordinated to rigid conventional formulas. An entire natural shape, such as a jaguar or a condor, is recognizable only by general contour: within the form, interchangeable parts of bodies and multiple points of view complicate the iconography. We may guess that the clustering of the attributes of jaguar, condor, and serpent was meant to personify daemonic forces of nature.

### LATER ANCASH ART

# The Callejón de Huaylas

All the early pottery fragments found in the ruins of Sechín and Chavín are similar: monochrome with incised, carved, and modelled decoration. About 700–500 B.C., experiments with painting began to appear in the coastal valleys. Here the potters used white-paint decoration on a red ground. Other experiments leading to pottery painting appear elsewhere in Peru as well, always in an early context, and prior to the great florescence of Middle times. As Willey suggested, the technical innovation of white on natural red-slip ground colour arose when potters changed from reduction-firing in closed ovens to open-kiln firing.<sup>28</sup> The former mode produced black ware, while open-kiln firing gave the reddish and brown tones that characterize Middle period pottery. White-on-red pottery is now generally recognized as belonging to a technological

horizon which marks the passage from Early to Middle times, following the period of monochrome pottery, and preceding that of negative painting. At Chavín in Ancash, white-on-red pottery is well established as 'post-Chavín'.<sup>29</sup>

Negatively painted pottery is made by applying the design in strips of wax or clay. When dipped in dye, only the bare ground takes colour. The original vessel colour emerges intact after the strips of wax or clay, called 'resist elements', are removed. If the figural parts are resist-covered, they emerge in a light colour on a dark ground, with the effect of making the ground visually more active than when the figure appears in dark upon light. The antecedents of resist-painting are still unknown, although Willey and Kroeber have suggested origins in the north Andean highland.<sup>30</sup> Its earliest Peruvian appearance on the coast in the Chicama Valley has been dated by radiocarbon as about 500 B.C.

The most elaborate examples of negative painting come from the upper Santa Valley, where the technique appears upon elaborately modelled vessels, belonging to what is known as the Recuay style (Plate 128, A and B), whose influence is apparent in the north coast valleys as well.<sup>31</sup> Certain shapes and themes of the Recuay style recur in Mochica art until the closing centuries of Middle times, during a period lasting about a thousand years. The Recuay tradition endured less long than that of Chavín, and its spread was less extensive, but its presence throughout Middle times has been obscured by the tendency to mark off Peruvian archaeological history by excessively neat styles in rigid succession.

The shapes of Recuay vessels are extremely variegated. The simplest ones recall gourds and squashes; there are also cups, head-shaped goblets, tripod vessels, handled dippers, and a great variety of modelled shapes representing people, animals, and buildings, both singly and in groups. The colour combinations also are numerous, triple combinations of black, white, and red being most common. The painted designs show jaguars, birds, fishes, and serpents rendered in linear ciphers, more like the wall paintings of the tombs in Colombia <sup>32</sup> (Figure 79) than anything in Peru. These ciphers owe much of their form to the strips and fillets of wax or clay used as resist elements. The most common cipher develops from a circular eye to show a crested jaguar, with radiating filaments of varying widths to indicate comb-like teeth, semicircular body, claws, crest, and tail.

Unprecedented in earlier Peruvian pottery are the Recuay vessels representing houses with inhabitants, chiefs or deities encircled by their followers, and human beings accompanied by birds or animals. Such narrative propensities may have entered the Recuay style from Middle period coastal sources in Mochica art, but the abstract modelling, the absence of individuality, and the stratigraphic evidence all suggest that such contact occurred nearer the beginning than the end of the Mochica style. The vessel shapes, the negative painting, and the figural ornaments also relate to Quimbaya pottery forms (Plate 118B). Notable among examples of these north Andean relationships with the Recuay style are ring-shaped vessels surmounted by a sausage-like stirrup-spout. Another example from the Quimbaya territory in the Cauca river basin is a vessel decorated with negative painting and surmounted by figurines.<sup>33</sup> The date of these parallels with Quimbaya pottery has been tentatively fixed as of the centuries after 1000 A.D., but

such sequences were all established before radiocarbon chronology, and new absolute datings are not yet available.

Tello divided the pottery of Recuay into two groups: phytomorphic (plant-shaped) pieces, and pieces modelled to show single figures or groups of people. Kroeber divided the pottery of Recuay into two styles, A and B. Recuay A includes gourd-shapes, as well as globular vessels with short horizontal spouts and jar mouths with disk-like lips, bearing several modelled figurines above a zone of negative painting (Plate 128A). Recuay B contains vessels modelled as whole figures and as groups, such as men leading animals,



Figure 86. Aija, stone figure, before 600

with three- and four-colour painting (Plate 1288). It has long been supposed that A preceded B,<sup>34</sup> but final stratigraphic proof has not been discovered. An argument in support of Kroeber's sequence is the treatment of the eyes: coffee-bean and slit eyes appear only on the plainer examples of group A,<sup>35</sup> and on examples most closely resembling the Quimbaya parallels from Colombia.

Recuay pottery was deposited probably as grave furniture in stone-lined subterranean chambers or galleries. The gallery walls were faced with large slabs surrounded by smaller spalls and chips, and roofed with flat slabs. The entire Macedo Collection in Berlin came from such subterranean galleries and chambers at Katak near Recuay. Other more elaborate pyramidal platforms and above-ground houses in the Callejón de Huaylas <sup>36</sup> were probably built in later periods.

Definitely belonging to the Recuay period are many stone statues. One group from Aija, near the upper Huarmey river, represents warriors (Figure 86) and women. The warriors resemble shapes found in Recuay B ceramics, bearing the square shields that were probably characteristic of the Ancash tribes.<sup>37</sup> In the Huaraz Museum many other statues have been brought together from the entire Callejón. Schaedel's study proposes three tentative developmental stages, changing from curvilinear incisions (1) to relief carving in faint (2) and bold (3) phases. He suggests that

phase 1 may correspond to the white-on-red period; phase 2 to Recuay A; and phase 3 to Recuay B.38

The later stages of the archaeological history of the Callejón are poorly known. There is a stratum of sherds in the Tiahuanaco style, found at Wilkawaín by Bennett. The usual traces of Inca occupation also appear, and the native language today is a dialect of the Quechua tongue of the Inca conquerors. It is mixed with remnants of an older, unidentified language manifested in many place-names.

### CHAPTER 13

## THE UPPER NORTH: MOCHICA AND CHIMU

The modern Peruvian departments of La Libertad and Lambayeque, which extend nearly 250 miles along the Pacific Coast north of Ancash, contain the principal remains of the Middle and Late periods of central Andean archaeological history. Two civilizations dominated the region: Mochica, which flourished from about 400 B.C. until after A.D. 700, and Chimu, governed by a dynasty enduring from about 1370 until the Inca conquest of the north coast valleys before 1470.¹ The six centuries between Mochica and Chimu civilizations are poorly explained. Strong traces appear of an art called Tiahuanaco, and identified with the southern coast and highlands. Radiocarbon dating for the end of Mochica is far from complete and the historic evidence sifted by Rowe refers only to dynastic and not to stylistic events. Eventually the six-century gap between Mochica and Chimu will surely be narrowed by extending the duration of Mochica,² and by recovering the early stylistic phases of Chimu. For the present, Tiahuanaco intrusions on the north coast are generally accepted as of about 1000.

The geographical distribution of Mochica and Chimu was roughly similar, with different patterns of expansion. Mochica influences appear to have worked south, while Chimu expansion affected the more northerly valleys. It is therefore justifiable to speak of inner and outer zones in northern Peru. The inner zone centred upon the Moche river valley, but the outer zone for Mochica peoples was in the valleys southward to Huarmey and beyond. For Chimu history, the outer zone was northward, to the deserts of Sechura and Piura and beyond.

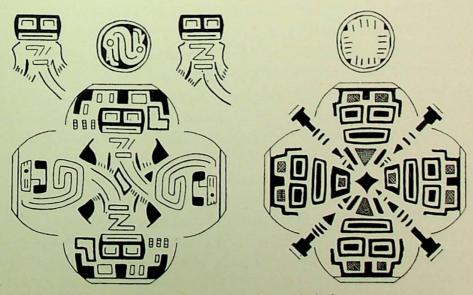


Figure 87. Huaca Prieta, incised gourds, before 1200 B.C.

### PRE-MOCHICA STYLES

The remarkable discoveries by Junius Bird at Huaca Prieta in the Chicama Valley included the earliest dated ceramics in the central Andes. No detailed study has appeared. The pots are very plain, but there are incised gourds of a complicated design, belonging to the pre-ceramic levels, which are the earliest dated examples of graphic art in America (Figure 87). The radial figures with squarish heads and eyes rise from base to rim. Diagonal curving lines on one give an effect of swirling or rotating forms; on the right-hand specimen the symmetry is complete on a bi-axial scheme. Both vessels have lids, and the left-hand one bears a two-headed Z-curved condor shape, which anticipated the dated Chavín designs with interchangeable body parts by several centuries.

Of many mirages in Andean studies, none is vaguer than the illusion raised by the term Cupisnique. The word refers to a dry ravine approached from the north side of the Chicama Valley, and emptying into the Jequetepeque drainage. On its arid floor R. Larco Hoyle in 1934 found large quantities of sherds in the Chavín style, mostly black-fired pottery of a stony appearance, decorated with incisions. He also found incised red sherds, cream-on-red with incised outlines, red and brown, and solid red as well as solid cream-coloured pottery. On the site near the Cupisnique called Pampa de los Fósiles, there are foundations of rough stone building as well, but no graves, and no entire pots.<sup>3</sup>

To counter Tello's hypothesis of eastern Andean origins for the Chavín style, Larco proposed that the coastal pottery of heavy form with incised or modelled decoration on monochrome surfaces was archetypal, and that it be called Cupisnique. But the intact examples answering this description come from many valleys other than Cupisnique. Very few were excavated under proper control, and most of the vessels appeared in commerce as the results of illegal digging under destructive conditions.<sup>4</sup>

The intact examples have in common only certain types of incised and modelled surface treatment, representing figures related to the Chavín system of interchangeable feline, bird, fish, and reptile parts. But the vessel shapes range from coarse pre-Mochica forms to the most intricately harmonious Mochica contours of the terminal periods, so that, as in the case of Chavín sculpture in Ancash, we are here forced again to recognize an extremely long duration of a style, ranging from the ninth century B.C. to the end of Mochica times. Larco's division into periods is inconsistent with his analysis of the Mochica series. He separates Initial (pre-Cupisnique), Middle (Cupisnique), and Terminal stages on the basis of iconographic traits,<sup>5</sup> while the Mochica seriation (discussed below) rests mainly upon traits of form. Larco's nucleus of 'pure Cupisnique' vessels does not come from that site but from many valleys, and its forms include both Early shapes (heavy stirrup spouts) and the most delicately shaped vessels of Classic Mochica type. Furthermore the finds in the Cupisnique style in the graves opened in the Chicama Valley (Barbacoa site) include red-and-black, orange, and red-on-cream wares of Mochica type.<sup>6</sup>

The dilemma is like that of the Olmec style in Mesoamerica, where we separated

coastal and highland versions of an art unified only by certain iconographic themes, persisting through two of the major periods, Early and Middle, of American prehistory. Larco's view, however, is much simpler. He insists upon a single horizon of brief duration before 500 B.C. for all these forms, techniques, and designs. Thus he divided 'Cupisnique' pottery into four stylistic groups (Plates 129–30A), recognizing the morphological differences, but insisting upon their pre-Mochica date. Style A has sausage-stirrups and lipped spouts; B has slender rounded stirrups; C has low stirrups; D has high trapezoidal stirrups. Examples of monochrome brown occur in groups A and D; red-ware appears in groups A, B, and D.

There is good reason to accept Larco's seriation in the main outlines. To attempt to co-ordinate his 'Cupisnique' with Mochica is simpler than to treat all Cupisnique as pre-Mochica of brief duration. In a more extended chronology, Cupisnique, which is better called 'coastal Chavín', appears as a tradition coeval with, and only slightly anterior to, Mochica. It emerged from distinct origins, and it flourished together with Mochica art for many centuries (cf. Figure 91 and Plates 129–30A). Thus Cupisnique A by our own hypothesis is pre-Mochica; B is coeval with Mochica I; C with Mochica II; and D belongs to the same time as Mochica III and IV.8 The principal difference is that coastal Chavín pottery is usually monochrome, and Mochica usually bichrome. The Chavín style seems to have had its home high in the constricted drainage of each coastal river, while the Mochica style flourished nearer to the sea on the open flood-plains.

The coastal Chavín repertory of forms is much poorer than that of the Mochica style. The linear designs are simple and powerful, but they tend to extreme abstraction, and to harmonious ciphers incised upon the curved surfaces without any enlargement of the descriptive programme such as we have seen in the highland Chavín art of Ancash. Figural paintings, such as pictures of actual life, are entirely lacking. Yet the effigy vessels depict a mother nursing her child, a gabled house, various heads, monkeys, crustaceans, molluscs, and birds always singly and without the portrayal of action which characterizes Mochica art.

The Salinar style is another discovery made in the upper Chicama Valley by R. Larco Hoyle. This red-ware pottery was baked in open kilns. Its surfaces are thus different from the much darker Chavín surfaces, which were fired in closed kilns. The vessel forms include new bottle-shapes, and handled vessels. The stirrup spouts most closely resemble Larco's Cupisnique B. The effigy forms are far cruder, with filament limbs, coffee-bean eyes, and fired white paint.

By our hypothesis, Salinar is another local style, roughly coeval with both coastal Chavín and the earliest Mochica styles, that is belonging to the same time-span as Larco's Cupisnique B and Mochica I. Its stratigraphic position is above Cupisnique and below the Mochica graves. It is possible and likely that early white-on-red experiments in the Callejón de Huaylas, together with the mature sculptural tradition of the coastal Chavín style (Cupisnique A), facilitated the invention of the Salinar style in the Chicama Valley, with its great freedom in figural modelling, and its clear red firing. Salinar in turn may be taken as an initial or preparatory stage in the emergence of modelled and bichrome Mochica pottery. The possibility of long duration for the Salinar style should

not be excluded. Certain of its forms, such as effigy groups (one example shows a healer massaging a recumbent patient), suggest contact with fully developed Mochica schemes of representation. Similar red-ware forms with archaic modelling, however, appear in many other regions on pre-Mochica levels. Strong and Evans have recently discussed all the occurrences and parallels of white-on-red throughout the Andes.<sup>10</sup>

A distinctive feature of the Salinar style is the representation of houses in pottery (Plate 132A). One bottle form has an entire house carefully portrayed on the container at the junction of the handled spout. A vertical wooden support, probably a tree-trunk, bears a cross-member on which the roof panel rests. Perforated wall-panels enclose the sides and rear. Painted lines mark the walls guarding the access to the enclosure. This roofing by ventilating planes and sunshade panels is our earliest record of the ancient Peruvian coastal tradition of shelter from sun, wind, and heat rather than from damp and cold, on these arid valley floors where rain scarcely ever falls. Another Salinar pot shows a cylindrical edifice with perforated walls. It probably represents a temple, and has terraced slots and a guilloche band decorating the round envelope.

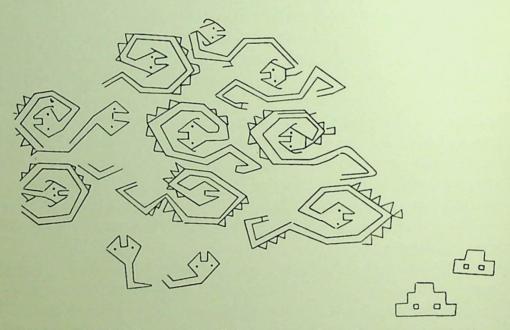


Figure 88. Virú Valley, incised wall decoration with rectilinear serpent motifs, before 350 B.C. (?)

Still another period of coastal pottery is identified with pre-Mochica times. The Gallinazo groups of honeycomb dwellings in the Virú Valley <sup>11</sup> were built from 550 to about 350 B.C. with puddled adobe (tapia) walls as well as ball and rectangular adobes. Bricks made in cane moulds and bearing their marks are characteristic of Gallinazo wall construction. Resist-negative painting on the pottery from this area suggests a connexion with highland Recuay. Certain buildings coated with yellow clay are decorated with incised serpent forms (Figure 88) of textile derivation which also recall the themes of Recuay resist-painting. Bennett showed that only the terminal period of this style,

Gallinazo III, overlapped with early Mochica art. But, on the evidence of radiocarbon and stylistic parallels, Recuay A, Salinar, Gallinazo, and Early Mochica, together with Cupisnique B and Chavín-Castillo art, all seem to cluster in the centuries immediately after 500 B.C. The possibility of putting them in more open seriation becomes questionable as the radiocarbon dates accumulate.<sup>12</sup> The case is probably one of parallel local developments, rather than of seriated events.

### THE CLASSIC MOCHICA PEOPLES

The hearth of Mochica civilization was in the valleys of Chicama and Trujillo. The ancient name is unknown, and Mochica is a modern term.<sup>13</sup> A bellicose people, the Mochicas eventually extended their dominion to the area between Casma in Ancash and Pacasmayo in the north, along some 200 miles of the Pacific coast. More than any other cultural group of ancient Peru, they recorded their behaviour in a pictorial art of much detail and great animation. Their immense pyramidal platforms (Plate 133) and country estates (Figure 90) differ sharply from the scattered villages of immediately preceding periods. Mochica civilization was based upon an agriculture irrigated from aqueducts, reservoirs, and canals built on a gigantic scale. The valley areas anciently under cultivation greatly exceeded those in modern use.<sup>14</sup> In the Virú Valley, for example, the Mochica canals supplied an area 40 per cent larger than the present cultivated area, and the land supported 25,000 people, where today there are only 8000.<sup>15</sup>

The beginning and the end of Mochica history are roughly fixed. The earliest stages of the society overlap archaeologically with Gallinazo sites (550–350 B.C.). The latest occurrences of Mochica objects, in layered guano deposits on the Chincha Islands, attest the great spread and the survival of the style until about the ninth century A.D. The terminal events have long been connected with an invasion by the bearers of a southern pottery style called Tiahuanaco, which elsewhere on the Peruvian coast can be dated by radiocarbon measurements to about the eighth to eleventh centuries A.D. 16

Rafael Larco Hoyle, the foremost collector and student of Mochica art, has tried to reconstruct Mochica chronology, as well as to deduce something of the society from its art.<sup>17</sup> For Larco, the civilization originated in the Chicama Valley and spread to the Trujillo Valley (also called Santa Catalina, Moche, or Chimor) during the early centuries of a long ceramic development. The earliest pottery, which he called Chicama–Virú, resembles Bennett's Gallinazo style. Larco's sequence will be followed here, with certain modifications. Because adjacent stages are not clearly separable, Larco grouped them as Early (I and II); Middle (III and IV); and Late (Larco V).

### Architecture

The ceramic sequence from the excavations in the Virú Valley permits certain inferences about Mochica architecture. The groups of dwellings, like those of the Gallinazo period, were clusters of adjoining chambers built of rectangular adobe bricks, in both

irregular and symmetrical arrangements. Reed-marked adobes made in moulds of cane are probably pre-Mochica, smoothed bricks are of Mochica date. Temple or palace platforms of rectangular form first appeared long before the Mochica development proper, during the period of the earliest red-on-white pottery decoration (named the Puerto Moorin Period in the Virú Valley). New Mochica forms are suggested by the foundations of large rooms, courts, and corridors on these platforms. They contrast with the earlier clusters of tiny rooms (Plate 122) built one over the other by successive generations as a filled-in honeycomb of abandoned habitations.

The Castillo of Huancaco in the Virú Valley is such a terraced platform, built along the lower slopes of a hill which dominated the fields of the lower Virú Valley bottom.<sup>19</sup>

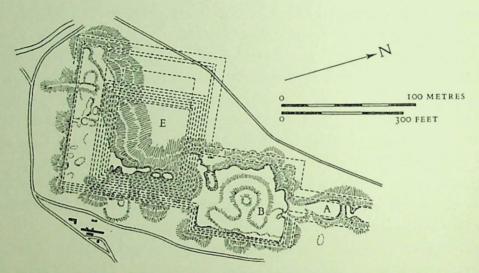


Figure 89. Moche, Pyramid of the Sun, Middle and Late Mochica periods, c. 100–900 (?). Plan

The steep pyramidal terraces are built of small mould-made adobes without stone foundations, assembled in adjacent but unbonded columns and sections of wall. The sherd collections from the Huancaco site indicate construction during the Gallinazo period, and enlargement with a great pyramidal platform during the Mochica period. Thus Mochica architecture was a continuation of earlier practices, on a larger scale and with more stately effects. The Pyramid of the Moon at Moche in the neighbouring valley of Trujillo is similar, projecting in terraced adobe platforms from a stony hillside. The pottery associations, however, are much later, belonging to fully developed Middle Mochica types.<sup>20</sup>

The great buildings at Moche are exceptional because they still show the original form of the Mochica pyramid-cluster. Elsewhere the early platforms were covered with additions by later builders, as at the Brujo pyramid in the Chicama Valley or at Pacatnamú in the Pacasmayo valley. On this last site, Chimu settlers enlarged the older buildings and connected them with a grid of courtyards and ranges of dwellings.<sup>21</sup>

The Pyramid of the Sun at Moche (Plate 133) stands at the river's edge some 550 yards west of the Pyramid of the Moon (both names are modern). The river has carried away

nearly half of the vast adobe brick construction, but even today in its diminished state it is the largest ancient construction in South America, rising 41 m. (135 feet) above the valley floor. Like the other platforms described above, it is an aggregate of unbonded walls and columns. At building level beneath the highest portion, the river has exposed a lens of ashes, probably from a dwelling site antedating the construction of the pyramid. Embedded in that ash lens were fragments of early Mochica pottery belonging to Period I.<sup>22</sup> Upon the southern terrace separating the base from the crowning pyramid, Uhle found intrusive graves with pottery in the coastal Tiahuanaco style. The construction can therefore be assigned to the Middle and Late Mochica periods, although a hypothetical nucleus, long since wasted away, may have been older.

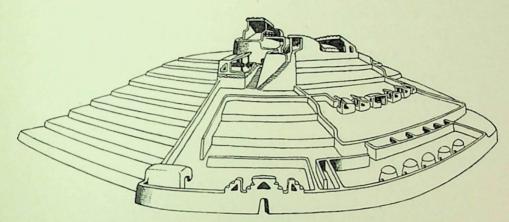


Figure 90. Mochica house group of the fourth century B.C. (?).

Reconstruction drawing based on Plate 132B

The overall dimensions including the ramp are 136 by 228 m. (440 by 250 feet) (Figure 89). The southern platform (C), nearly square, has five stages, surmounted by a smaller square platform (E) of seven more stages. Broad terraces separated the primary and secondary platforms on the southern and western exposures. A long ramp (A) gave access to the lower northern platform (B). Every detail confirms an impression of work by unskilled labourers, who laid the bricks in stints as contributions to the collective place of worship. The Moon Pyramid was probably a palace-platform, and the Sun Pyramid was a temple.<sup>23</sup>

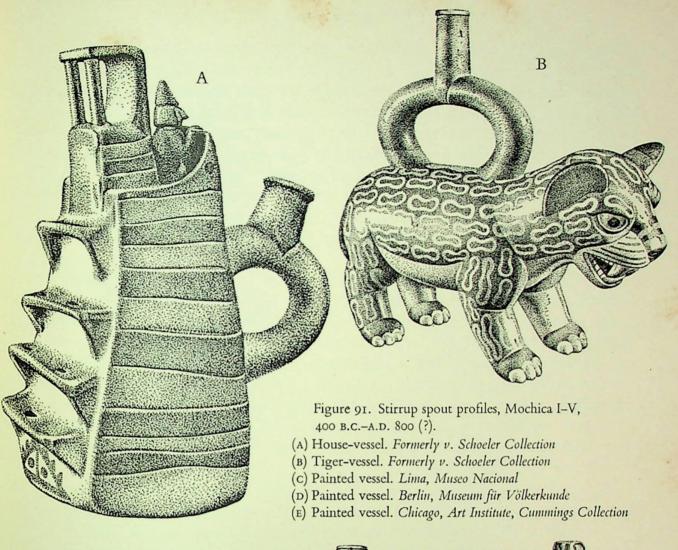
On the evidence of vase-paintings, Mochica society was probably a theocratic organization, governed by priestly persons. The farming population lived in clusters of dwellings at the valley edges. The nobles and their servants occupied walled and terraced hillocks, of which the form is recorded in many pottery vessels. An example from the Virú Valley in the Lima Museum <sup>24</sup> has pyramidal terraces indicated by bands of red and cream colour (Plate 132B and Figure 90). A walled chicane corridor protected the entrance, and ramps led from level to level. The wide lower terraces were for servants, and the withdrawn upper courts, surrounded by gabled houses of ventilator planes and sun-shades, housed the masters. The model has a lipped spout characteristic of the Early Mochica style.

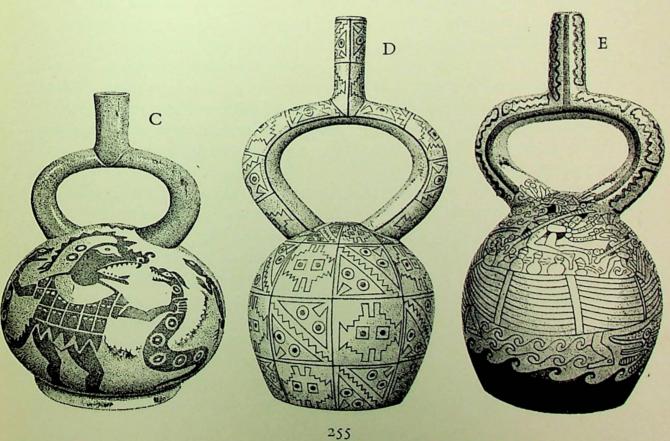
The transition to these feudal dispositions under Mochica rule was therefore of early date, probably connected with a novel regime of artificial irrigation by man-made canals on a large scale. Such a regime gave mastery of the entire society to a few persons controlling the upper valley necks. In the Chicama Valley, the Cumbre Canal is still in use over about 113 km. (70 miles). The Ascope aqueduct carried water on a dike 1400 m. (1530 yards) long across the embayment of a small lateral valley north of the Chicama river, saving many miles of contour-line ditching by its straight embankment 15 m. (50 feet) high.<sup>25</sup> Such gigantic enterprises required rigorous organization and the subordination of other concerns to public works.

The utilitarian and collective bias of the Mochica culture is most evident in the amassing of enormous dikes and platforms. It appears as well in a structural experiment (or accident) approximating to true arch construction. One Chicama Valley tomb reported by Larco has a curved roof of adobe bricks resembling a European tunnel vault. A model of this tomb was available at the Chiclin Museum. W. Bennett believed it to be a variant of the standard Mochica box-tomb, built with longitudinal sticks supporting a surface layer of adobe bricks. The sticks disintegrated, and the bricks were locked by gravity into position as an accidental vault.<sup>26</sup> Intentional or accidental, the resemblance to a tunnel vault is striking. Larco also mentions arched doorways in Mochica temple and tomb construction, but his illustrations show only corbelled, rather than true, arches.

# Sculpture

The sculptural impulses of the Mochica people were channelled into modelled pottery and small objects of metal, bone, and shell. Carved clay decoration 27 and large stone statues are extremely rare. The predominance of small sculptured objects may perhaps be related to the prime importance of large irrigation works, which required the principal energies of the people for their construction and maintenance. Another hypothesis is that the Mochica people were exceptionally endowed with tactile faculties, preferring sculptural expression to chromatic variety, and adopting clay sculpture in preference to other means of recording their preternaturally sensitive perceptions of spatial order. The large number of erotic subjects in Mochica pottery has been connected with this hypothesis of congenital tactile sensitivity.<sup>28</sup> Others have noted the emphasis placed by the Mochica people upon pottery made especially for burial rites. These ornate vessels of fine quality are so distinct from the utilitarian wares found in refuse deposits that their manufacture has been attributed to a special group of priest-potters who were identified with the ruling class, and who supplied such mortuary pottery to the people in return for services.<sup>29</sup> The grave specimens rarely show signs of use; sometimes bundles of small leaves (coca?) are stuffed into the necks. Identical replicas of certain portrait-vessels and moulded figures in the tombs of widely separated sites, as at Chimbote and in the Chicama Valley, prove the unity of Mochica culture, and indicate the use of figural pottery to increase social cohesion in the absence of writing. The many replicas of certain portrait-types (Plates 130B and 131 A and B), with commanding facial expressions, surely reflect a cult addressed to governing persons.





The generic resemblance to west Mexican pottery in Colima and Nayarit is striking in the portraits and scenes of daily life modelled on pottery made for graves. The chief difference is a fundamental one: the Andean potters rarely endowed the entire figure with studied sculptural form. The container form rigidly framed the anatomical design. Mochica modelling is an art of lavishly detailed parts connected by schematic passages.

About 10 per cent of the pottery collected by Uhle from the Mochica tombs at the pyramids of Moche bears figural decoration of sculptural character, in effigy and in relief scenes. There are painted designs on 34 per cent, and all the rest, 56 per cent, are undecorated vessels.<sup>30</sup> Of this collection, 90 per cent have red-and-white colour, of an effect described as 'piebald', which is distinctly graphic in intention rather than colouristic.

The vessel shapes are elaborate and varied, both in function and in plastic variety for its own sake. Spherical jars with flaring conical mouths, of a form used probably for the storage of food, are very common (35 per cent). The most numerous (42 per cent) are stirrup-mouth vessels designed for the storage of liquids. These containers are vented by two curved branches joining at a tubular mouth. The handle-like stirrup lets the vessel be carried on a belt or sash. Its mouth is contrived to reduce losses by evaporation and spilling, and pouring is eased by the branching tubes, of which one admits air. More than any other form, the stirrup spout registers the passage of Mochica time (Figure 91). Larco's chronology is based mainly upon changes in its proportions, articulation, and construction.<sup>31</sup>

Mochica I vessels have short spouts with rimmed mouths. The curving stirrup straddles the container with wide-set insertions, and the vessel itself is globular, lacking a distinct pedestal. Mochica II stirrups are more like closed loops, with the ends drawn closer together at the insertion. The spouts are longer, with almost imperceptible rim reinforcements. Mochica III, corresponding to the Middle Period, has stirrups of varying curvature, nearly flat in the horizontal upper portion, and rapidly curving to meet the wide-set insertions on the container. The spouts are often concavely profiled, widening gradually to the mouth. Mochica IV stirrups are tall and angular. The spouts are straightsided, and the lip is bevelled inside. The insertions on the container are widely separated, and the container profile is more like a hat than a sphere. The flat bottom, luted to the upper portion, simplified the process of shaping the container. Mochica V stirrups are approximately triangular in profile, with conical spouts. They are sometimes taller than the container. The insertions are nearly contiguous, drawing the loop of the stirrup into a triangular shape with an apex on the container. Mochica V potters also explored the continuous combination of both profiles, on the container and in the stirrup. The curve of the inner stirrup profile gently reverses the container silhouette, so that a figure of eight emerges, with the lower loop formed by a solid outside profile and the upper loop by an inside, i.e. void, profile of remarkable grace.32

Regional and ethnic differences modify this evolution. For instance, the stirrup spout, which rides on top of the container, may mark either an axis or a frontal plane (Plate 129-31). On Cupisnique vessels the stirrup plane is perpendicular to the line of vision, and it marks a frontal aspect. The same position of the stirrup, spanning the front

view with its bridge-like silhouette, characterizes the other pre-Mochica styles, called Salinar and Gallinazo. But the Mochica stirrups all mark the sagittal or axial plane. In a portrait vessel, for example, the face occupies one plane, but the beautifully proportioned stirrup requires us to turn the vessel. The stirrup establishes the profile, and the container establishes the front. The two views more urgently require the observer to rotate the vessel than do the pre-Mochica examples. The portrait vessels also show a progressive refinement of axial composition. In Mochica IV, the head tilts back from the

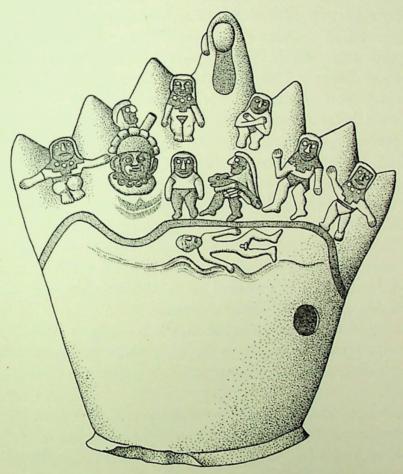


Figure 92. Mountain sacrifice vessel from a grave at Sorcape in the Chicama valley, Mochica V style, seventh-eighth centuries (?)

base, with an upward lift of the facial plane. Face and stirrup spout compose a curved diagonal axis in profile, and this commanding expression conveys high moral stature and purpose (Plates 130B and 131, A and B).

We have already seen how the early stages of the art of anatomical modelling were gradually worked out by Salinar, Recuay, and Gallinazo potters. In general the fundamentals of Mochica sculpture were all defined long before the emergence of Larco's Mochica I, not only for the human face and figure, but also in the modelling of animal, plant, and monster forms. We shall again retain Larco's phase numbers, grouping them as Early, Middle (Plates 130B and 131, A and B), and Late stages (see p. 251).

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Early (Larco I and II). The heads are stereotyped spheres, lacking the pronounced individuality of the heads of the Middle stage. The burnished surfaces are much finer in texture than the coarse and gritty moulded wares of late date. The eyelids are strongly ridged, in an almond-shaped figure. The eyeball is correctly indicated as a sphere set into the head. The nose prolongs the arch of the eyebrow, but the union of the nose and cheeks is still arbitrary. The mouth is a V-shaped cut, faintly modelled to mark the contour of the lips.

Middle (Larco III and IV). The muscular structure of the facial planes, lacking in the Early stage, is given by powerful, simple detail, indicating the unique individuality of the person represented, in a system of surfaces ridged and furrowed by the play of muscles. The eyelids are profiled in reversing curves. Tiny folds of muscle appear under the bony arch of the eyebrow. The precise muscular set of the mouth is shown by furrows. Wrinkles indicate the age and temper of the subject.

Another common theme in this period is the scene of a mountain sacrifice, showing a number of people among mountain peaks in the presence of a jaguar god of human aspect, engaged in the sacrifice of one or more of their numbers. An example of Mochica III or IV, from the Warrior-Priest's Grave in the Virú Valley, shows five mountain peaks. Six human figures and a lizard are present at the sacrifice. Another such mountain-vessel, associated with Mochica IV specimens, comes from Cerro Sorcape in the Chicama Valley (Figure 92). It has seven peaks. The human being to be sacrificed is again spread face-down upon the central peak. There are also eight celebrants, a recumbent person, and the bust of a tusked god. All these figures are moulded in relief, and painted <sup>33</sup> in the usual red-and-white technique.

Mochica carving in wood, bone, and shell has never been studied systematically. Wooden staffs with figural heads occur in the Warrior-Priest Grave of Mochica III-IV date in the Virú Valley, as well as among very late deposits in the guano beds of the Chincha Islands.<sup>34</sup>

Mochica metallurgy, like woodcarving, is stylistically coherent with the pottery forms. If, however, large portions of the Chavín repertory be correlated with Mochica developments as proposed here on page 249, then a puzzling discrepancy vanishes. Lothrop observed an extremely wide range of Chavín metals and processes, of which many 'disappeared' until Mochica times.<sup>35</sup> When Late Chavín and Mochica are considered as coeval, the history of metallurgy in northern Peru no longer requires a hypothesis of 'disappearing' techniques.

# Painting

Mochica painters <sup>36</sup> renounced colour and became expert in the delineation of movement. The line was penned in red, without variations in width, on brown paint, upon cream or ivory slip. Figures in profile predominate, and there is no attempt to suggest depth by perspective devices other than the simplest overlapping of forms.

The Mochica draughtsman's main concern was to achieve effects of movement. Every resource at his disposal was used to increase the agitation and restlessness of his

work. The painted spherical containers, with their scenes of ritual and battle, are themselves suggestive of motion, as the eye slips over their rounded surfaces, or as the hand turns them over. The painted men run furiously: pumas attack suppliant victims; the waves curl on the waterline of a boat; the tassels of the ears in a field of corn are tossed by the wind; a flight of birds rises in all directions from a clump of cane. Even the space surrounding the figures is alive with agitation, conveyed by spots and rosettes as in Corinthian orientalizing pottery of the sixth century B.C. Such space-fillers are frequently occupied by other fillers, which in turn bear tertiary fillers. Consistent with this technique is the lively inversion of line and field, whereby the shape and its ground exchange their roles.

This description, however, is synthetic and non-historical, true only for the cumulative result of many centuries of development. Sharply defined stages can be isolated, and here, as in preceding sections of this book, we may rely upon Larco's tentative and unproved, but inherently probable, chronology. An independent linear mode of figural description upon flat or curving planes first arose during Mochica II, as we may deduce from its absence in I, and its fully developed presence in III. During Mochica I (Plate 130B), face paint, body markings, and costume details, as well as bands of geometric ornament, were the only subjects entrusted to linear description. In Mochica II pottery we first encounter figures of human beings and animals in low relief, probably shaped in moulds, and painted with colour in patches and lines to describe costume and expression. Space-fillers were not yet used, and figures in solid colour tended to carry the design, as in Attic black-figure vase-painting before 500 B.C.

During the Middle Mochica centuries (Larco III, IV), painters abandoned figures in solid colour for wiry and active outlines, giving the illusion of total movement (Plate 134A). Narrative and processional scenes of many figures replaced the single and double figure panels of the early period. The scenes often occupy two or more registers. Spiralling processional scenes required hair-fine brushwork upon a tiny scale. These tendencies towards figural complication probably characterize Mochica IV. The shift from figures in solid colour to outlined figures with much interior detail recalls the Greek shift from black-figure to red-figure vase-painting after 500 B.C.

The murals at the Moon Pyramid at Moche are of Middle Mochica date, painted on a dado about 3 feet high, in seven colours upon a white ground. The figures represent a battle between human beings and animated implements, with the victory going to the implements. The linear outlines look like freehand incisions. The colour was hastily applied. Other Mochica murals at Pañamarca, near Chimbote, portray a robing scene and a battle with life-size figures in seven tones: black, white, grey, red, yellow, brown, and blue.<sup>37</sup>

Late Mochica (Larco V) pottery painting is the most restless (Figure 95). Violent animation possesses the figures. The backgrounds swarm with space-fillers of agitated contours. The figures and their settings often lose distinctness, for the pattern becomes so dense that the eye cannot easily separate the figure from the ground.

The pictorial description of the Mochica environment by pottery painters therefore dates from the Middle Period, and passes into ornate complication at the end of the

sequence during a span of several centuries before 900. Instead of exploring the imagery of deep perspective, the Mochica painter, in his quest for effects of movement, chose to indicate the setting by linear devices as agitated as his forms in motion. Thus a desert landscape is shown by cactus and tillandsia plants rooted in a sinuous ground line: the area above it is vacant, but tortuous enough to hold the eye without giving a sense of uncomfortable voids (Figure 93). In another example many running human legs seem

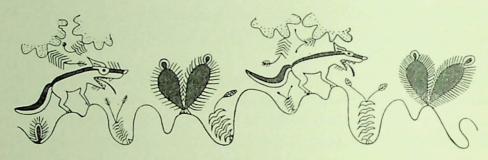


Figure 93. Desert landscape with foxes, Mochica III style, second-third centuries (?). Berlin, Museum für Völkerkunde

to churn the ground into hillocks, and the ground line becomes an ornamental figure, undulating more because of the action portrayed than because of the nature of the ground (Figure 94).

In a hunting scene the agitation of the moment is increased by the undulant ground line, but neither the hunter nor his prey touches it (Plate 134A). Both are shown as if instantaneously arrested during the kill. The huntsman plunges his lance into the flank

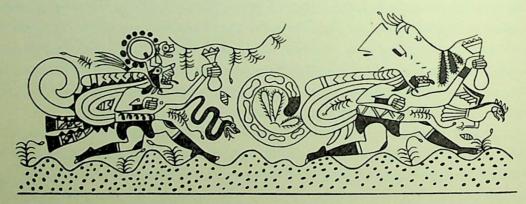


Figure 94. Runners wearing animal attributes, Mochica III style, second-third centuries (?). Berlin, Museum für Völkerkunde

of an exhausted deer. The hunter's feet leave the ground and the painted deer throws his head back in pain as his fragile legs crumple under him. Another such scene of arrested motion occurs on many vessels. In one example, a huge jaguar with bared claws and fangs leaps upon a seated warrior. The man waits in breathless fear, with clasped hands, closed eyes, and open mouth. Every line conveys violence, motion, or suspense. All the schematic conventions of Mochica figure drawing combine to express the terror and

violence of the moment. Nothing is left uncertain; nothing is unclear; all parts of the design accurately describe the motion of beings in action.

The representation of distant planes is also subjected to a rule of maximum animation. In a racing scene (Figure 94), the runners fly, barely touching the ground-line. Above their heads another ground-line with tillandsia hanging upside down indicates a plane behind and far away, registering distance by inversion. Indoor scenes are shown by simple cross-sections through the beamed structure of the gabled houses (Figure 95). Pyramids, platforms, and furniture appear as orthogonal projections showing the most significant and active profiles.<sup>38</sup>

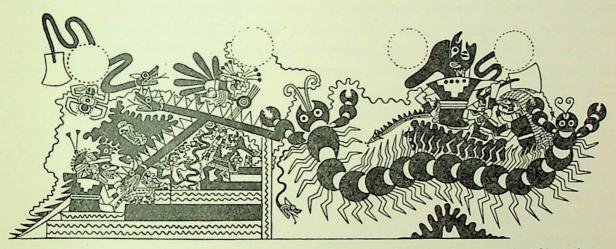


Figure 95. House and occupants, centipede, and jaguar-fang deity, Mochica IV style, fifth-sixth centuries (?). Berlin, Museum für Völkerkunde

Iconography. The uncanny Mochica facility for isolating and representing significant moments of behaviour also took form in portraiture and humorous characterization. Many vessels are unmistakable records of specific persons at determinable ages and in identifiable moods and attitudes (Plates 130B and 131, A and B). In one class these portraits show men of noble bearing at the peak of maturity, with the firm, disciplined expressions of those who bear great responsibilities. The portraits exist in many replicas, probably honouring dynastic chiefs or important officers. In another class, individual peculiarities are common, as well as mutilations and lesions. In all these cases the unique and special aspects of individuality were isolated, like the climatic moments of action in the narrative scenes. The portrait and the action scene are like instantaneous exposures, taken from the vast range of appearances.

Thus Mochica iconographic types are both traditional and disruptive of tradition. The stylized, tusked human beings of Chavín origins continue in modelled and painted Mochica vessels, together with the metaphoric clusters of animal attributes that characterize the Nazca style. Alongside these traditional types, the Mochica artist introduced new, special forms of great veracity and instantaneous vivacity. An abrupt enlargement of perception is apparent. The Chavín artist channelled all experience into a few

arbitrary signs. The Nazca painter codified experience by pictorial metaphors drawn from an animistic conception of the world. The Mochica artist, however, turned his gaze outward from ceremonial custom and from magical properties, to examine in great detail the world before him. Hence the Mochica monsters consist of animal attributes related by visually plausible organic connexions (Figure 95). In the tusked human faces, the muscular structure is accommodated to the great dentures. Owl-man, fox-man, crab-man, and many others are all plausibly compounded.

One most remarkable innovation of the Mochica artists was their style of landscape painting. One example shows a cornfield, with the entire environment skilfully portrayed: the nodes of the stalks are depicted, the ears and their tassels burden the stalk, and the tassels nod in many directions, as in a cornfield tossed by a choppy breeze. On another painted vessel we see a watery marsh. Here small water-birds feed upon the cane, a heron feeds upon the fish, and water-grasses and snails fill the composition. There are no human beings and no monsters. Natural landscape appears for its own sake with an evocative vigour unparalleled in ancient America.

Erotic behaviour and sexual organs are shown on about two per cent of all Mochica pottery. The scenes are usually anthropomorphic. Since they appear among tomb furnishings, a serious intention may be supposed. Coitus, masturbation, and sodomy may have conveyed concepts of divine inspiration, afflatus, and possession.

Another prominent trait of Mochica sensibility is humour – the awareness of discrepancies between ideal and real behaviour. Humour depends upon detached observation of reality and the self, in a revelation of some part of truth by ridicule. Mochica pots often provoke laughter by skilful and sympathetic exaggerations. Many erotic scenes are funny: a woman wards off the embraces of a gross lover, or a nursing infant rages at its mother's amorous distraction. Humorous descriptions of animal behaviour are common: there are scenes of monkeys embracing or chasing one another's tails, and dances of upright deer holding hands with their young does and bucks (Plate 134B). In another vein there are chain dances performed by human skeletons, like the late medieval danses macabres of western Europe.

Most efforts to explain the iconographical themes of Mochica art have been unsuccessful. A knife-like accessory worn by many figures has been explained both as a metal bell and as a weapon. One writer claims to have identified a supreme deity named Ai Apaec; another has proposed four classes of nature-demons ruled by Si, a moon god who navigated the skies in a crescent-shaped boat. Where one interpreter sees messengers bearing dispatches written on marked beans, another proposes fertility races to stimulate the crops (Figure 94).<sup>39</sup> We have encountered similar difficulties in the determination of conventional meanings elsewhere in ancient America, and, as before, one must be content with approximating the intrinsic meaning.

Mochica art differs radically from the rest of American Indian art, save for the parallels to west Mexican pottery styles. With few exceptions, it is an art directly connected with sensation, based upon instantaneous perceptions of the changing appearances of reality. Mochica pictorial habits betray an interest in particular situations at the instant of happening. These attitudes most closely resemble the empirical and pragmatical modes

in modern behavioural classification, and they suggest to us that the incidence of these modes of behaviour is not necessarily contingent upon economic conditions.

### THE END OF MOCHICA ART

A most important connexion in the central Andean archaeological sequence appeared in 1899 with Max Uhle's discovery of intrusive graves, containing pottery in the Tiahuanaco style, on the south terrace of the main platform of the Sun Pyramid at Moche.<sup>40</sup> Uhle rightly understood these graves as related to the end of the Mochica style, and to its replacement by traces of a different culture.

All subsequent discoveries have reinforced Uhle's conception of the sequence of Mochica, Tiahuanaco, and Chimu on the north coast. As we shall see, the Tiahuanaco style at Moche (called 'Epigonal' by Uhle) was a weak reflection of more resplendent achievements on central and southern coastal sites, yet the cultural change which these sherds attest seems to have been of the same order of magnitude as the displacement of Christian by Islamic art in Spain at about the same time, near the end of the first millennium A.D. On the north coast, only the Mochica territory was affected, in Ancash and La Libertad. No evidence of pottery intrusions in the Tiahuanaco style has come to light north of the Chicama Valley.<sup>41</sup> These Tiahuanaco sherds are painted in black and white on a red slip. They come from flaring-sided goblets, cups, double-spout vessels, and face-collar jars. The painted designs show geometrically simple puma and condor figures, as well as oblong fields and panelled divisions which all have affinities with the rectilinear structure of textile designs, such as the tapestry fragments in the Tiahuanaco style found at Moche.

Other pottery types associated with the intrusive Tiahuanaco style are moulded and have reduced-fired surfaces as black as heavily oxidized silver. Still others favour geometric designs painted in black, white, and red, as well as cursive designs painted on tripod vessels and modelled pottery. The older differentiation of grave wares and utilitarian types ceased.<sup>42</sup>

The systematic excavation of settlements in the Virú Valley confirms the thesis of an abrupt and profound cultural replacement. The building of great pyramids ceased, including palace-pyramids of the type of the Moon Pyramid at Moche, and the fortified hill-top enclosures which characterized Mochica architecture. Instead, huge compounds were built, as large as 130 m. (430 feet) square, surrounded by tapia adobe walls, and containing symmetrical files or ranges of rooms, corridors, and courtyards disposed around small earthen platforms. Willey connects these reticulated compounds with the appearance of the Tiahuanaco style in figural art. They stand near the coastal roads built at this time to connect the valleys. Such roads probably formed a new system of communications, linking the coastal centres to one another rather than to their own valley necks and highland basins.<sup>43</sup>

# THE LAMBAYEQUE DYNASTY

Far to the north, in the valley of the Leche river, the site called El Purgatorio (Figure 96) displays monuments of both the Mochica and Tiahuanaco eras. In its south-western quadrant are numbers of solid pyramidal platforms without enclosures, believed to be of Mochica date. At the northern rim of the site are files and courts of rooms upon an immense primary platform nearly 450 yards long: Schaedel attributed them to the period between the Mochica and Chimu states, and explained them as palaces housing families of the ruling class with their servants and artisans.<sup>44</sup>

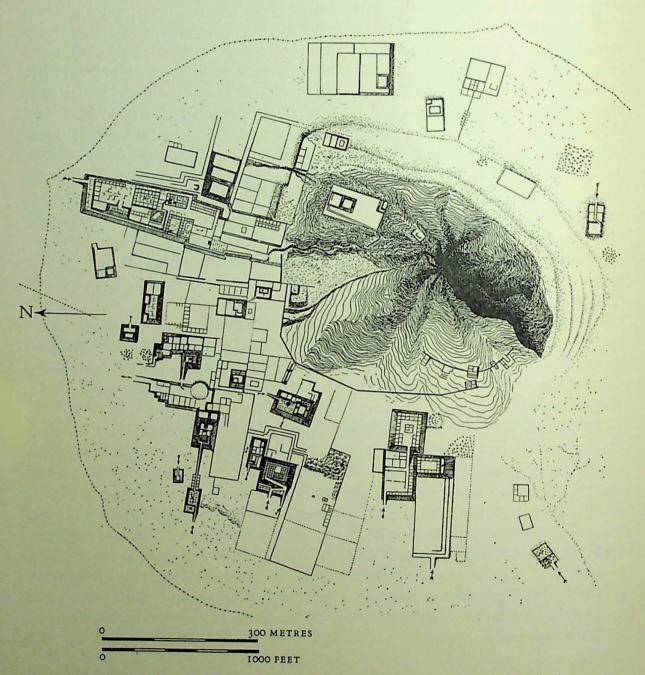


Figure 96. El Purgatorio, Leche Valley, thirteenth-fourteenth centuries. General plan

An ornate example of a roadside mound within a walled rectangular enclosure of 55 by 59 m. (180 by 193 feet), compounded with regular files of dwellings, is the Huaca Dragón, just east of Chanchan in the Trujillo Valley (Plate 135).<sup>45</sup> The outer wall of moulded and painted clay is divided into repeating panels of identical motifs several tiers high. The recurrent theme is an arched and two-headed serpentine body outlined by wave-scrolls, with each head devouring a small human figure. Within this outer wall are rows of cubicles like temple workshops, where artisans made shell incrustations for wooden statues. They left great quantities of discarded shell in all stages of manufacture. The inner pyramid was two stages high with a steep ramp adorned with moulded friezes. The entire edifice has been assigned to about A.D. 1100. Similar moulded adobe friezes of a coarser execution, with arched, two-headed figures appear in the Lambayeque Valley at the Huaca Chotuna.<sup>46</sup>

These edifices in the valleys of the Moche, Lambayeque, and Leche rivers and elsewhere have been ascribed on archaeological evidence alone to a period before the Chimu conquest in the fourteenth century, and after Mochica domination on the north coast. In addition we have two distinct historical traditions bearing upon the region, conveyed by reliable colonial authors. Here, for the first time in our survey of Andean prehistory, we can match archaeological and textual evidence. Miguel Cabello Balboa, writing in 1586, reported a dynastic history for the region now called Lambayeque.<sup>47</sup> The dynasty was founded by a seaborne colonizer named Naymlap, who came with his retinue in boats. He settled at Chot (probably Chotuna). A succession of twelve rulers governed the region until its conquest about 1420 by the Chimu dynasty from the Trujillo Valley. Hence the inauguration of the Naymlap lineage goes back to the twelfth century, on the assumption that each ruler equals one generation of about 20–30 years' duration.

The description of the court of Naymlap mentions many functionaries who belonged to an aristocratic class, and gave personal services to the ruler. The sons of Naymlap settled other valleys in the Lambayeque basin; both the sons and the courtiers established dynastic lineages which continued for centuries as genealogical lines through the colonial era. Cabello reported an interregnum of unknown duration between the last ruler (named Fempellec) of the Naymlap dynasty in Lambayeque and the Chimu conquest of 1420. If the interregnum was brief, then the Naymlap account fits in with the archaeological evidence as a historical record. It reports the same kind of feudal and aristocratic lineage, replacing the previous theocracies, which we encountered in the Mixtec and Toltec dynasties of Middle America at about the same epoch.

In 1936–7, three large golden knives bearing winged human figures were found in the Lambayeque Valley. One of them was inset with turquoises and bore red paint on the cheeks (Plate 136). Luis Valcárcel at once suggested that these were dynastic images of Naymlap himself who, when he died, took wings and flew to the sky.<sup>50</sup> On closer study it appeared that this winged human figure, associated with a knife and wearing a semicircular diadem, is the most common simple theme of the coastal archaeology of the late periods. It appears in pottery, and on textiles and metal objects from the north and central coast. R. Carrión Cachot related the figure to a lunar deity with

marine associations, and she regards it as a Chimu rather than a pre-Chimu form.<sup>51</sup> The representations all have almond-shaped eyes, with rising scrolls at their outer corners. A mural at the Huaca Pintada in the Lambayeque Valley records the same personage, flanked by bird-headed acolytes who sacrifice two recumbent human beings. The theme of a wave-bordered, semicircular curve reappears in the moulded clay friezes at Huaca Chotuna in the Lambayeque Valley, as well as at the Huaca Dragón near Chanchan (Plate 135). It also recurs in textiles from Pachacamac, where the diademed and winged figure is connected with the taking of trophy heads. It is most common in black-ware from the Lambayeque Valley, on double-spouted vessels and on taper-spouted vessels with loop handles, assigned by both Kroeber and Bennett to pre-Chimu times.<sup>52</sup>

The finest examples of north coast art in this period after Mochica and before Chimu domination unquestionably come from the Lambayeque Valley. There the metalsmiths attained great virtuosity in the use of curved and plane wafers of soldered and welded metal (Plate 137). The pottery forms likewise manifest a distinct style, more linear and more ideographic than the waxy shapes of Chimu origin in the Trujillo Valley.

### THE CHIMU PERIOD

A Spanish chronicle written in 1604 furnishes our only record of the dynastic history of the land of Chimor or Chimu.<sup>53</sup> The founder, Taycanamo, came like Naymlap by sea to Chimor early in the fourteenth century. Twelve generations of his descendants succeeded him in the kingship. About 1370, Taycanamo's grandson, Nançen-pinco, extended Chimu rule by conquest from the Santa river to Pacasmayo, and the ninth ruler, Minchançaman, brought all coastal valleys from Carbaillo near Lima to Tumbez under Chimu domination. This took place about 1460. The 'fortress' at Paramonga, built of adobe bricks, probably corresponds to this period. Minchançaman's career was interrupted before 1470 by Inca armies under Tupac Yupanqui, overrunning the Chimu Kingdom, looting the cities, and reducing the dynasty to vassal status.

### Architecture

Even with these indications, we are not clear about the beginnings of the Chimu state. The principal city, called Chanchan and situated near Trujillo (Plate 138), is now a vast ruin. The ancient name was probably Chimor. It has never been the object of systematic excavation, although a commercial company was formed in the sixteenth century to mine the huge treasure of its burials,<sup>54</sup> and illegal excavation of ruins has continued ever since. We do not know when they ceased to be inhabited. The finds of pottery strongly suggest that Chanchan was not in existence during the Mochica era and that its earliest history does not antedate the twelfth or thirteenth centuries.

The ruins, which today cover about 11 square miles (Figure 97), probably represent a gradual accumulation during not longer than 300-400 years. The remains of ten or

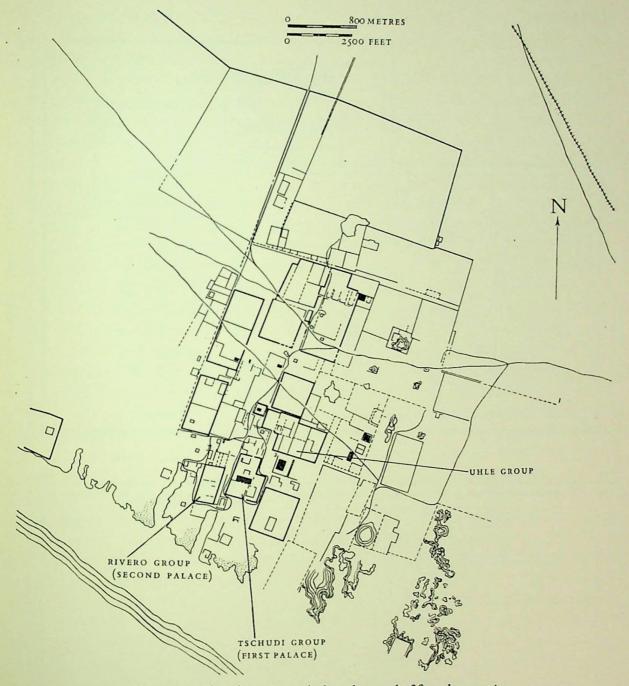
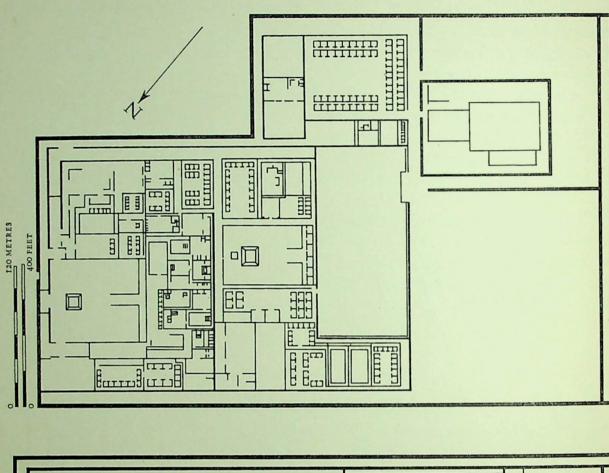


Figure 97. Chanchan. General plan, thirteenth-fifteenth centuries

eleven walled enclosures, surrounded by adobe brick walls rising as high as 50–60 feet, still stand out clearly.<sup>55</sup> Most of the enclosures are regular rectangles. Two of the best preserved compounds, named Rivero and Tschudi, consist of two adjacent rectangles, one large and one smaller, combined in L-shaped angles (Figure 98).

The most palatial compound, named after Max Uhle (Figure 99), contains a quadrangle with thirty-three gable-ended terrace houses in ranges two to five units long, all arranged symmetrically on a low platform around a rectangular courtyard. The terrace houses never turn corners, and the interior courtyards are all open-corner quadrangles. This remarkable scheme was walled off from the adjoining units by double walls



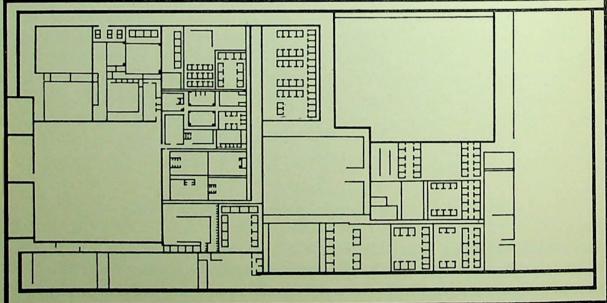


Figure 98. Chanchan, first and second palaces, thirteenth-fifteenth centuries. Plans

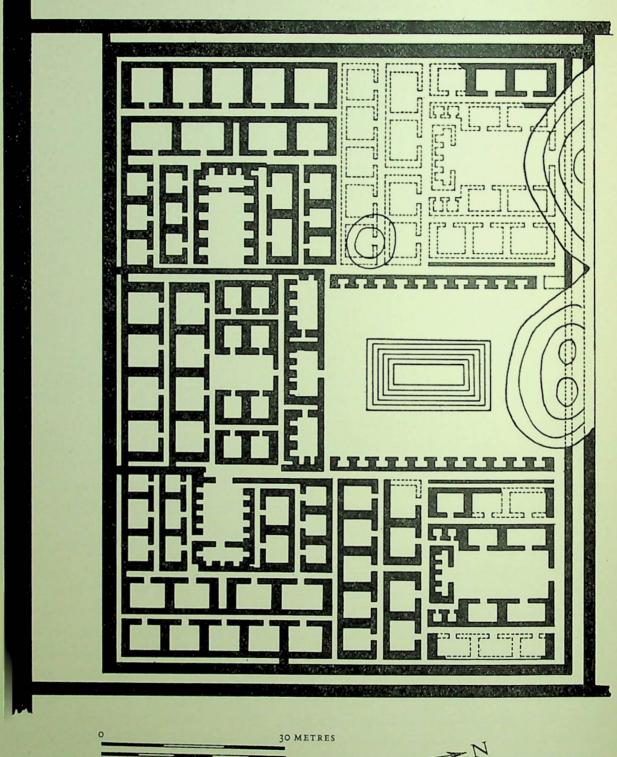
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breached only on the north. Its symmetrical regularity and its relatively good preservation allow us to date it near the end of Chimu history. Older construction is plentifully evident throughout Chanchan.

Between the better-preserved enclosures are the faint traces of many smaller compounds, each defined by double parallel walls with blocks of terrace housing within. These smaller and less distinct outlines can be discerned only in aerial photographs taken under favourable lighting conditions. From the air they give the effect of a palimpsest, as if the traces of an older architectural grid were faintly visible among the bold outlines of the principal enclosures. That early and late edifices are involved seems certain, but the absence of all scientific excavation makes it impossible to verify the detailed sequence of construction. Some of the low walls may of course define ephemeral or inferior construction, reflecting differentiation between palaces and proletarian housing, but such differences were probably less notable in adobe brick building than they would have been in more durable materials.

The wide variety in degrees of erosion is therefore indicative of the age of the buildings. The highest and least eroded walls are probably the most recent. Air photos (Plate 138) show clearly that three stages of construction can be inferred: at the lower right corner of the Rivero group is a small quadrangle containing many small courts, and its upper left margin is overlaid by the great double wall of a much larger quadrangle, which in turn is overlaid by the nearly intact double wall of the Rivero quadrangle (Figure 97). Because large parts of Chanchan were thus abandoned to decay during the active life of the city, we may revise the estimate of the population. The traditional guess of 200,000, on the assumption that all quadrangles were simultaneously occupied, is far too high, and it does not seem unwarranted to reduce this figure by two-thirds. One may suggest that the builders of the city often changed the circumvallation, to enlarge the enclosure, or to make it more regular, for as we examine the plans of two of the best-preserved enclosures, in relation to their eroded extramural neighbours, we receive the impression that some buildings inside a new wall are possibly as old as the eroded ruins outside the wall and immediately adjoining. The wall may mark a boundary between abandoned buildings and buildings that were kept in repair. In this event, the wall is the new construction rather than the buildings it separates. It is also notable that no compound opens to the north; that the highest walls shelter the compound from the prevailing south-westerly on-shore winds of the coast; and that most house-blocks face away from the southern exposures on courts opening to the north (Figure 97). In these latitudes, of course, the northern exposure receives the most sun, in a climate where fog during many months makes every sunny day a welcome event. Thus certain peculiarities of the plan of Chanchan can be explained by the need for shelter from the ocean winds and for favourable exposure to the sun. Other traits of Chimu architecture require a sociological explanation.

The number and the size of the surrounding compound walls are astounding. In some places three parallel dikes define two clear streets, and usually one such street surrounds an entire rectangle, breached only by a single door (Figures 98 and 99). In which sense were these walls restrictive? Were they to keep the residents in, or to protect them from



IOO FEET

Figure 99. Chanchan, Uhle Group, thirteenth-fifteenth centuries. Plan

outsiders? Were the rectangular enclosures palaces, or were they factories? The two enclosures nearest the ocean, named after Rivero and Tschudi (Figure 98), contain a random assembly of dwelling blocks which can most easily be explained as industrial settlements. On the other hand, the inland enclosure named after Uhle has a plan of spacious symmetry, like a carefully planned residence for privileged persons (Figure 99). Rivero and Tschudi look like gradual accumulations, arbitrarily set in order by a vast enclosure, but the Uhle compound seems to have been designed all at one stroke, and probably at a late moment in the history of the city.

Rowe has shown that many features of Inca polity were borrowed from the Chimu state: one was the custom of governing by means of the local nobility; other traits are rectangular town plans, mass production methods, and craft practices in metal-working, textiles, and luxury goods such as feathered cloths.<sup>57</sup> After the Inca conquest of the land of Chimor about 1470, Minchançaman, the deposed Chimu king, was kept in exile at Cuzco as an honoured vassal, and with him went a colony of Chimu craftsmen. The Inca treatment of conquered subjects probably repeats earlier Chimu customs, and these may explain the urban form of Chanchan. By this hypothesis, resident vassals, together with their colonies of craftsmen, lived in productive exile at the Chimu capital, each colony in its compound, with more spacious quarters for the upper classes. The argument is supported by the close resemblances between the compounds of Chanchan and those of other sites, such as the one at the mouth of the Jequetepeque river, called Pacatnamú after the Chimu general who conquered the territory probably about 1370.<sup>58</sup>

Striking differences distinguish Chanchan from the northern cities. They are smaller and more provincial, and they are older, while Chanchan is the metropolis and the new city. The difference in age is evident in the small number of pyramidal platforms at Chanchan. Pacatnamú has about sixty pyramids, one with a core of Mochica date, and only one great compound. Chanchan, which has many compounds, boasts only a few pyramids of modest size. The site of Chanchan, however, is riddled with deep rectangular pits called *pozos* (wells), which are like the negative impressions of pyramids (Plate 138). They were probably produced for agricultural purposes, to expose the low-lying water-table, and to grow garden produce on the bottoms. The excavated clays and gravels may have been used to build walls and platforms. Many compounds contain such *pozos*, and there are others in the unwalled areas between compounds.

# Sculpture

The dwellings of the upper classes in the palace compounds of Chanchan and other buildings of the Chimu period on the Peruvian coast are enriched with carved clay decoration of bold sculptural quality, arranged in panels and bands of repetitious figures (Plate 139, A and B). These carved clay arabesques usually adorn chambers, terrace-faces, and ramps. They differ from pre-Chimu clay decoration of the type of the Huaca Dragón (Plate 135) by the absence of rounded passages of moulding. The imaginative variety and the complicated ritual traditions of Mochica art disappeared and were replaced by secular themes, compressed into ornamental bands and patterns. At

Chanchan, the relief is in two planes sharply separated by vertical cuts. A few incised lines are the only modifications of the plane surface. Many of the same motifs recur on repoussé metal objects and in Chimu textile decoration.

The predilection for a few ornamental figures in stereotyped repetition is a fundamental trait of Chimu art. It is related to enormous construction of the simplest, most rapid, and most effective sort. It is usually assumed that textiles were the sources of these repetitious schemes. Many wall patterns, however, suggest figured twill weaves, which are not abundant in Peruvian cloths. Twill construction would more commonly have been used in basketry and mats.<sup>59</sup> Hence we may suppose that certain carved clay wall decoration of the Chimu cities perpetuates an ancient habit of hanging the interiors with matting in figured basket-weaves (Plate 139B). Other pictorial conventions of the Chimu people were so limited in the repetition of a few themes in meander and fret motifs that their origin need not be sought in any special craft.

Although Chanchan has long had the reputation of an important metalworking centre, very few objects can be ascribed with certainty to its furnaces. In the Baessler Collection of Peruvian metal objects in Berlin, of 570 items, only one, a semicircular knife-blade, is of Chanchan origin, and only twenty-five come from 'Trujillo'. <sup>60</sup> We may suppose that the sacking of the graves of Chanchan began about 1470, when the Inca conquerors of the city removed its treasure to Cuzco. A few museums, however, have metal objects from Chanchan, and they are always small ornaments. The castings are of fluid plastic form, and secular in theme. The repoussé sheet metal cups and ornaments in the Chimu style exploit the brilliance of gold and silver by a variety of reflecting planes, often achieved with hinged bangles and filaments.

Chimu sherds at Chanchan are plain household red-ware; in the cemeteries blackware is predominant. Stirrup-spout vessels, as well as effigy vessels, re-appeared here in common use after a lapse perhaps several centuries long. The phenomenon suggests a revival or a renaissance of Mochica forms, but without the pictorial style of Mochica draughtsmanship. The Chimu potters revived from their Mochica predecessors' repertory only the monochrome wares. The black burnished surfaces resemble oxidized silver, and the polished red-ware resembles copper. Both black-ware and red-ware modelling have passages suggestive of repoussé or hammering more than of sculpture in clay. The concept of a revival, involving certain Mochica forms stressing metallic effects, helps to define the character of Chimu pottery as a craft overshadowed by metalworking techniques. Unfortunately the principal products were destroyed by Inca and Spanish invaders.

Chimu textiles, like other crafts in the Late Period, show repetitive and geometric stylizations, governed by rectangular compartments or frames, with colour sequences which favour a diagonal movement of the eye across the whole pattern.<sup>62</sup> The north coast examples are far less abundant than those of the region from the Lima to the Nazca Valley in the central area, and their quality is less impressive.

When the artistic attainments of the late north coast peoples are placed in perspective against those of their contemporaries in the south, they appear less intense and less complex. On the other hand the political attainments of the Chimu dynasty, exemplified in

the creation of enormous cities, far outstripped those of their predecessors and rivals. The Chimu tradition of imperial rule, maintained by aggressive expansion and by economic regulation, must surely have become the heritage of the Inca dynasty in the fifteenth century. One of the prices paid for this imperial political organization seems to have been the progressive loss of aesthetic vigour and inventiveness.

## THE HIGHLAND BASINS

To each of the three main clusters of north coast valleys there corresponds a highland centre situated just beyond the continental divide on the Atlantic side. Chavín de Huántar, as we have seen, communicated most easily with the coastal valleys of the department of Ancash. Huamachuco was the highland intermediary at the nexus of the headwaters feeding into the Marañón basin as well as into the Chicama and Trujillo Valleys. Cajamarca, finally, connected the Lambayeque and Jequetepeque systems with the Marañón basin. All three were highland citadels, capable of guarding (or threatening) the headwaters of the Pacific streams, as well as of controlling the approaches to the Pacific Coast from the Amazonian rain-forests, via the Marañón river. Any interchanges between coastal and Amazonian peoples, such as the trade in tropical feathers and highland wool, must have been negotiated at such centres. The Inca war-lords, before attacking the rich coastal valleys, secured possession of Cajamarca with its surrounding domains, gaining a secure military base from which to conquer the land of Chimor in the 1460s.

The archaeology of Cajamarca is known with a completeness that would be desirable for every region of Peru. 63 In Cajamarca the sequence resolves itself into passive and active stages, in an area spread between the Hualgayoc and the Crisnejas rivers. After an initial period of incised monochrome pottery, distantly similar to that of the Chavín style, the region slowly evolved a distinctive ceramic decoration based on cursive brushwork in black and red or orange on tan, cream, or white slip (Cajamarca I–III). This evolution occurred independently, without influences from the coast. It endured until the close of the Mochica sequence, about the ninth century A.D., when Cajamarca was invaded by the same intrusive art from the south (Wari-Tiahuanaco) of which we have already seen the effects on the coast at the close of the Mochica series. Subsequent relations between Cajamarca and the coastal peoples are shown by the occurrence in the coastal valleys of Cajamarca IV vessels together with pre- and early Chimu styles. These sherds differ from the 'classic cursive' (spiral brush-strokes) and 'floral cursive' of Cajamarca III by the addition of bold geometric fields derived from the Wari-Tiahuanaco style.

In 1532 the Spaniards routed the Inca army and took the ruler, Atahualpa, prisoner at Cajamarca. 64 The chroniclers describe various edifices, forming an impressive group, of which little survives. Whether these were Inca constructions or re-used buildings of older date is not known. In a walled plaza stood three 'pabellones' containing eight rooms. One of these chambers still stands in the present Hospital de Belén, and an old

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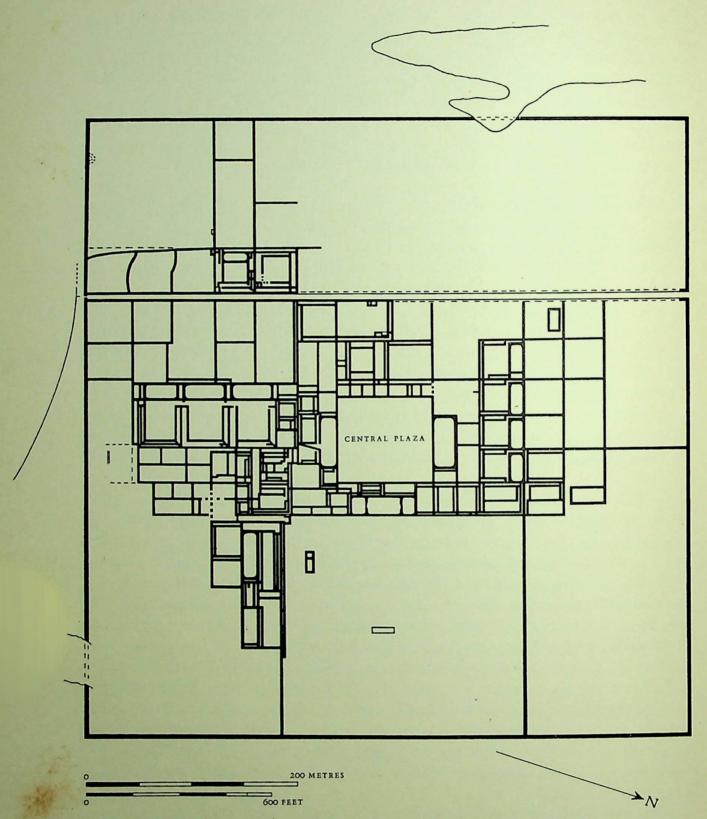


Figure 100. Viracochapampa. General plan c. 1500

tradition makes it the room where Atahualpa's ransom was brought together. These buildings were probably 'galleries' like those of Huamachuco, described below. A rectangular pyramidal platform stood east of the walled square. Systematic study of the architecture of Cajamarca, to parallel Reichlen's ceramic sequence, is still lacking.

Some idea of the architectural tradition of the north highlands can be gained, however, from the buildings of Huamachuco,65 about 40 miles distant from Cajamarca as the crow flies. The earliest people lived in hilltop villages of stone houses with rectangular rooms, arranged in casual order around open courts. Much later, the populace built a high-walled fortress called Marca Huamachuco. It was possibly contemporary with the later stages of Mochica history, to judge from the stone heads and reliefs collected by Uhle. The heads 66 wear helmets close to those of the Mochica styles. The reliefs show geometric reductions of organic forms recalling Tiahuanaco sculpture. The houses were long and narrow galleries, two or three storeys high, with the floors carried on corbels. The floorings have all vanished, and the walls themselves are ruined. The absence of doors and windows at ground level in some 'galleries' suggests that the entrances were on the upper floors, reached by ladders, which could be withdrawn in case of attack. These people used a style of cursive pottery painting on ring-base pots similar to that of Cajamarca III, as well as negative painting like that of the region around Recuay in the Ancash highland.<sup>67</sup> No trace of negative painting appears at Cajamarca, however, so that Huamachuco may be taken as a boundary between the highland traditions of Ancash and Cajamarca in pottery decoration.

About 2½ miles north of Huamachuco are the ruins of Viracochapampa (Figure 100), an immense grid-city laid out upon a square of about 580 by 565 m. (635 by 620 yards), with the sides facing the cardinal points. A road cuts straight through the city from north to south, and a central plaza, bordered by smaller courtyards, is the nucleus of the city. The rest of the city consists of courts surrounded on three sides by narrow gallery houses. The plan resembles the compounds at Chanchan. Plan and buildings resemble the garrison city called Pikillaqta (Plate 162), 20 miles south-east of Cuzco. Both usually pass as Inca settlements of the early sixteenth century, designed to concentrate the rural populations of the area under one central control. A case can be made for a date during the Tiahuanaco period.<sup>68</sup>

### CHAPTER 14

### CENTRAL PERU

ORIGINALITY in the repertory of expressive forms is rare throughout the region between the Paramonga and Cañete Valleys. Whether on the coast or in the highlands, buildings and crafts resemble those of other regions, as if central Peru had been a receptacle for styles originating elsewhere. Thus examples both of the Paracas style and of a style related to Chavín occur at Playa Grande near Ancón in the same approximate stratum at the beginning of the sequence of the fine wares. This intermediate position between powerful artistic radiations from north and south makes it difficult to identify a specific regional expression: perhaps central Peru was always the natural meeting place for northern and southern traditions, constituting a limitrophic province rather than an autonomous artistic region. The exact boundary between northern and southern archaeological traditions has tentatively been fixed by Stumer between the Rimac and Chillón Valleys just north of Lima.

In any event, central Peruvian sites are important and large enough to warrant treatment in a separate chapter. Thus Pachacamac was a metropolitan centre, much like Lima during colonial and republican periods, although depending far less upon seaborne commerce than the viceregal capital. North of Lima the stylistic connexions of the coastal valleys point to Ancash and beyond. South of Lima, connexions are more common with the Tiahuanaco and Inca styles, that is, with the southern highlands.

### FROM LIMA NORTH

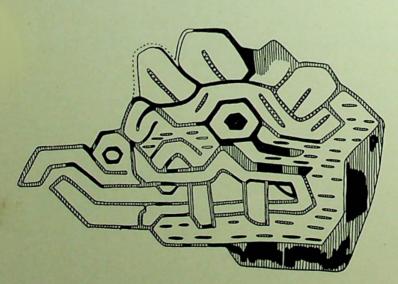


Figure 101. Tapestry fragment representing a condorfeline figure, from Supe, Chavín style, before 200 (?)

The group of the northern valleys, from the Rimac to Huarmey, embraces about 160 miles of the Pacific Coast. Close to the beach, at Ancón and at Supe, 80 miles farther north, are large cemeteries and middens containing objects worked in the coastal Chavín style.<sup>4</sup> On both sites the early pottery is red or black, with the characteristic incised surfaces of Chavín art. There are stirrup spouts, and at Ancón and Supe the images include serpents, felines, and birds in the Chavín style. The

aridity of these coastal cemeteries has preserved from decay the very rare specimens of textiles (Figure 101) and wood-carving in this style. The buildings were simple dwellings with stone foundations, and no public edifices have been identified among these fishing folk <sup>5</sup> whose burial artifacts so closely reflect the early ceremonial customs of Ancash and Libertad much farther north.

An elaborate public architecture first appears in the next stage at Cerro Culebra near the mouth of the Chillón river. The original plan of this platform-pyramid was covered over with later constructions, but parts of the primitive painted facing have been exposed, to show 26 m. (85 feet) of fresco decoration in seven colours on a yellow clay ground, representing geometrized figures surrounded by serpent attributes and fish motifs. Two distinct grades of workmanship are evident. The style of the wall decoration resembles the pottery painting of Recuay in the Callejón de Huaylas, some 150 miles to the north-east, and the ceramic associations also place Cerro Culebra in this same period, prior to A.D. 500.

Coeval with Cerro Culebra is the style designated as Proto-Lima. The type-site is Maranga, a great cluster of pyramidal platforms and graves lining the highway from Lima to Callao. It is a ceremonial centre of Classic date, built before the intrusion of the Tiahuanaco style. The stepped platforms are built of hand-made and mould-made rectangular adobe bricks, like the principal edifice at Moche on the north coast, with which the architecture of Maranga is probably contemporary. Five phases have been identified in the history of Maranga. The earliest antedates the platforms, with many small adjoining rows of foundations. The second (coeval with the painted walls of Cerro Culebra) comprises early terrace constructions; the third has new construction separated from the earlier stages by a layer of ashes, and containing ceramic designs of interlocking positive and negative forms. These interlocking shapes relate both to the Recuay and the Nazca styles, allowing a date prior to A.D. 500. The fourth and fifth stages included many new buildings. Sherds of the Mochica as well as the Nazca Y style appear among the ruins of the fourth period.

In the fourth period, however, Maranga yielded place to a new urban centre in the Rimac Valley at Cajamarquilla, 18 km. (11 miles) east of Lima. Here uncounted foundations of rooms and small courts have been found, enough to house thousands of families. They date from after 500. The pottery shows Nazca, Mochica, and Tiahuanaco traits. The site as a whole belongs without question to the group defined by R. Schaedel as 'Urban Elite Centers'. An earlier portion is built of hand-made adobes mixed with tapia walling; the later constructions under Inca domination have tapia walling mixed with moulded bricks.

The characteristic pottery of the earlier levels at Cajamarquilla, like that at Maranga, is also called Proto-Lima. It is often of fine orange paste decorated in six colours (white, grey, black, brown, red-violet, and yellow), and enriched with full-round sculptural forms. This combination of painted and sculptural shapes confers upon the best Proto-Lima pottery its singular quality (Plate 140). The products are more polychrome than those of the Mochica style, and more sculptural than those of the Nazca style. The vessel shapes derive from both traditions, but the standard forms are blurred, tending more

to the rounded shapes and bases characteristic of south coast pottery. The long tapering spouts have a fragility and elongation that distinguish products of the Rimac Valley from all others. In general the affinities of this pottery are with south coast styles, as in the high frequency of pottery pan-pipes. Certain traits are decidedly foreign, like tripod or tetrapod vessels, which are Ecuadorean and Mesoamerican, but not typically Peruvian, unless in the northern highlands around Cajamarca (p. 273).

That peculiar mixture of an independent artistic tradition with provincial derivations, and folk-art slovenliness, which characterizes the art of the valleys north of Lima, is most clearly evident in late pottery from Chancay on the lower Pasamayo river, adjoining the Chillón river. At a period immediately before the Inca conquest, these Chancay potters ignored the moulded techniques of their Chimu contemporaries. They used globular shapes, with coarsely modelled sculptural increments at the neck, and low-slung carrying-loops (Plate 141).

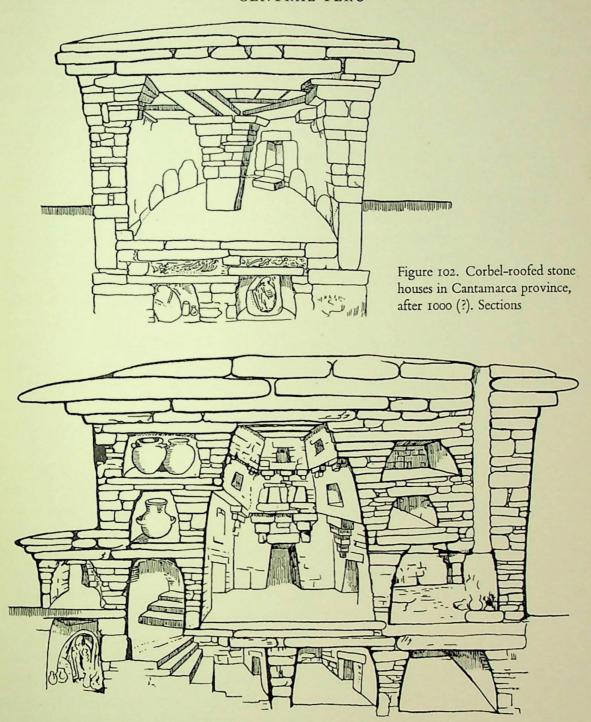
The painted decoration varies by combining black, white, and red according to the white or red ground clays and slips. <sup>10</sup> The effect of casual workmanship arises in the production of easily recognizable types in large numbers, and recalls that of the modern pottery workshops in places like Pucará or Quinoa, where tens of thousands of pieces

are produced each year for the market-places.

The upper valleys of the Chillón and Pasamayo rivers belong to Los Atabillos (or Cantamarca province), whence Pizarro took the title of his marquesate. The region is remarkable for walled cities of stone dwellings. They resemble the stone burial towers in the province of Collao near the shore of Lake Titicaca. Like the Aymara chullpas of the southern highlands, these kullpi houses are built of dry-laid boulders, with simple corbelvaulted roofs (Figure 102). They differ from the southern examples in being genuine dwellings. There are two types. 11 Square and round towers with central columns supporting the vaults occur around Canta in the upper Chillón Valley. Farther north, in the Pasamayo Valley, 2800 m. (8900 feet) above sea level, at Chiprak and Añay, are larger dwellings with central corbel-vaulted halls surrounded by massive walls, honeycombed with storage chambers and small rooms. These houses resemble those of the Callejón de Huaylas, e.g. at Wilkawaín near Huaraz, where Bennett excavated gallery houses and a temple of storeyed construction, associated respectively with the ceramics of Recuay and Tiahuanaco.12 The towers at Canta have no particular façades, and the central columns are designed to support the corbelled roof, over plans as wide as 6.5 m. (21 feet). At Chiprak, however, the flat façades have a striking rhythmic decoration by narrow trapezoidal niches rising from ground to cornice level. These niches evoke the Inca habit of breaking the wall by trapezoidal recesses. They may correspond to a later date of construction than the Canta towers.

### SOUTH OF LIMA

The Lurín Valley empties into the Pacific among low hills about 20 miles south of Lima. Pachacamac stands on the north bank, covering an area of about 4 by 2 miles, 13 between



the highway and the ocean. The principal buildings and streets obey a roughly regular plan which quarters the cardinal points (Figure 103). The south-western quadrant is a hill sheltering the city from the prevailing on-shore winds. It is crowned by an earthen platform traditionally called the Sun Temple. In the south-eastern quadrant another high hill rises, and the saddle between the hills is occupied by an older temple platform identified by Uhle as pertaining to the cult of the local deity, Pachacamac (Plate 142). Its oldest parts are coeval with the Mochica and Nazca civilizations. The north-eastern quarter contains the oldest dwellings, and the north-west quadrant is dominated by a building

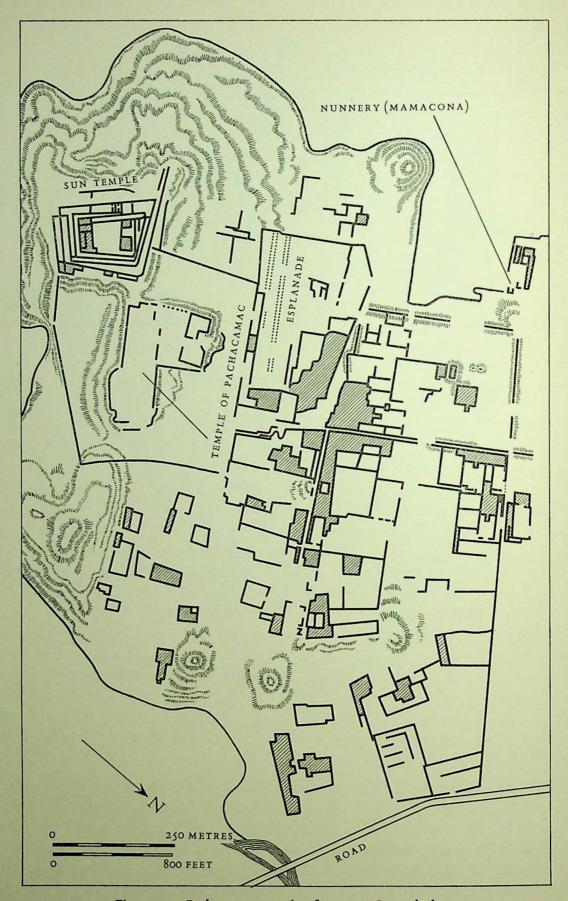


Figure 103. Pachacamac, mostly after 1000. General plan

of Inca date called the Nunnery (Mamacona), facing the Sun Temple across a colonnaded esplanade. The esplanade, unique in Peru, extends for about 330 yards on an axis from south-west to north-east. The combination of temple platforms with residential terraces and courts corresponds to the type of Chanchan.

Though smaller than the great 'urban elite centres' of the north coast, Pachacamac is the largest pre-Conquest city in central or southern Peru, and its architecture represents the southernmost occurrence of large assemblies of pyramidal platforms. Several colonial texts describe the buildings in some detail, and according to them the Inca Temple of the Sun was the one nearest the sea, and the highest one, painted red, and built of tapia in six stages. The Jesuit Bernabé Cobo, 15 writing before 1636, describes the building in great detail. His measurements coincide closely with those of Max Uhle, 16 and he saw the buildings in much better repair. The top terrace accommodated two parallel buildings, each 170 feet long by 75 feet wide, and 24 feet high, with deep niches on the north-west and south-east faces overlooking the surrounding prospects. They contained shrines and priests' dwellings, painted in various colours with figures of animals. Other buildings occupied the wide terraces on the second, third, and fourth stages. Some of these were recessed like caves into the high terrace risers. 17

The south-western exposure was the principal façade, overlooking the ocean. Spanning the two uppermost buildings and facing the water was a colonnade on the penultimate terrace. Its roof was an extension of the topmost terrace floor. The main stairs, on the opposite or north-eastern face, with ten or twelve ramps of about twenty broad steps each, rose within the terrace faces. Strong's excavations established most of these details, 18 although he and his associates do not quote either Cobo's description or a manuscript plan by Josef Juan in the British Museum (Add. Ms. 17671), dated 1793, and showing substantially the arrangements described by Cobo. Strong also confirmed the Inca date of the entire outer construction. Underneath the north-eastern face, however, Strong uncovered burials of a much older period, containing pottery of the interlocking style and of the same approximate date as Recuay (p. 245) and Paracas. Similar sherds were found by Uhle at the other, lower platform structure associated with the cult of Pachacamac.

The temple of Pachacamac is a platform of many terraces covering a large rectangular area, much less high than the Sun Temple on the hilltop above it. Eight of these terraces, each no more than 3 feet high, rise on the northern face, painted with plants and animals in rose, yellow, blue-green, and blue-grey earth colours. The ground colours were applied with large swabs of cotton cloth, and the figural designs were then brushed on. Small cotton bags containing the pigments, and brushes of reeds and human hair were found near the terraces in 1938. The black contour lines surrounding the figures were not the guiding sketch lines, but served to strengthen and define the figures in a final retouching, much as in Nazca pottery. The paintings were frequently redone, with as many as sixteen coats showing in certain spots. The top of the platform, like that of the Sun Temple, bore buildings surrounding a courtyard. As at the Sun Temple, the spatial arrangements included dwellings and temples in a loose and functional order.

Farther north is a system of large forecourts. Three parallel and double rows of

supports show in the air photographs: at one time these colonnades must have supported simple roofs of matting for the shelter of pilgrims and merchants. At the extreme northwestern boundary of the site stands the imposing tapia building called the Nunnery. Its foundations, of many courses of beautifully regular pink masonry in the Cuzco style, have each stone fitted by friction to its neighbours. The general plan of these heavily restored chambers comprises a terraced courtyard opening to the south with a view of the temples and the sea. It recalls the Inca nunnery building on the island of Coati in Lake Titicaca.

Like other great pilgrimage centres the world over, Pachacamac lacked an independent artistic tradition of its own, except in its architectural forms. The colonnaded platforms and esplanades are elements of striking originality. The importance of Pachacamac as a holy centre is attested by many early Spanish sources. Calancha speaks of shrines maintained by other groups at Pachacamac; burial near the temples was a privilege eagerly sought by members of the cult of Pachacamac, and pilgrims came to the shrines from all parts of Peru. But the textiles, wood-carvings, metal objects, and pottery in the tombs, 20 though abundant and belonging to many periods in a history of two thousand years, lack the impress of any style which we can identify as peculiar to this site.

## CHAPTER 15

# THE SOUTH COAST VALLEYS

POLYCHROME ceramics and bright-hued textiles characterize the southern regions of the central Andes as decisively as bichrome pottery and large urban groupings do the ancient civilizations of northern Peru. Such many-coloured vessels, and the textiles, were traditional products as early as the fifth century B.C. We define these southern regions as extending from the Cañete Valley on the Pacific Coast of Peru, east and south to Bolivia, the north-west Argentine, and northern Chile. As in the rest of Peru, the important centres of artistic activity were either in the coastal valleys or in widely separated highland basins. In the south, too, the coastal peoples were under the rule of highland masters late in pre-Columbian history, much as in the north, so that the same division by coast and highland regions, and by early and late periods, is practical.

## PARACAS AND NAZCA

Two river valleys sheltered the early civilizations of southern Peru. The Ica river, which flows south to the coast through desert plateau country, is lined by the oldest known settlements on the south coast. Many remnants of these earliest urban societies were buried in graves on the distant wastes of the Paracas peninsula, isolated by deserts from both the Pisco and Ica river valleys. The other river is the Río Grande de Nazca, emptying into the Pacific some 20 miles south-east of the Ica estuary. Its upper course receives many confluents, separated by barren pampas and mountain ranges. Each of these upper valleys was settled by groups of people sharing the same culture, and flourishing much later than the earliest settlements in the Ica Valley. Students of the archaeology of this region are now agreed upon naming the oldest Ica culture after its great burial ground on the Paracas Peninsula, and the more recent one after its main habitat in the upper Nazca valley. As we shall see, the two overlapped considerably. For certain periods the Nazca style was common in Ica. Conversely Paracas embroideries were deposited in Nazca tombs during the centuries just before and after the fifth century A.D.

The whole chronological question is exceptionally complex because of the disparity between absolute dates given by radiocarbon measurements, and the different relative datings based upon typology alone. As in northern Peru, students have tended on typological grounds to put in series a number of events which were actually contemporary. Thus, regional variants have gained acceptance as historical sequences. On the Paracas peninsula, Tello recognized two periods, represented by the Cavernas burials and by the Necropolis burials (Plate 144, A and B). The latter occupied refuse layers of older Cavernas dates. Cavernas and Necropolis therefore form a true sequence.<sup>2</sup> Absolute Paracas dates are more problematic. Early (Cavernas) and Late (Necropolis) stages

perhaps overlapped in the second century B.C. Necropolis textiles reappear as late as the Nazca A period, dated by radiocarbon A.D. 402 ± 200 (mummy 114). The Early Paracas style may have ended about 100 B.C., but Late Paracas, which was originally coeval with the Early Nazca style, endured far into Nazca times.<sup>3</sup>

The assumption that the Necropolis burials preceded the painted style of Nazca pottery is untenable, for embroidered textiles in the Necropolis style occur in graveareas of a pure Nazca style at Cahuachi on the middle reach of the Río Grande de Nazca.4 Thus Necropolis embroideries and Nazca pottery were coeval. Another example of coeval groups is Strong's 'Middle Nazca' (336 ± 100 to 525 ± 80 by C14), which practically coincides with his 'Proto-Nazca' (325 $\pm$ 80 to 495 $\pm$ 80), when his seriation is related to radiocarbon dates.<sup>5</sup> The most recent attempt to refine the stylistic sequence of Nazca art, by L. E. Dawson, proposes nine phases. The best seriation in general use is still the original one proposed by Gayton and Kroeber in 1927.7 They classed a large collection from the Nazca region on the assumption that simple shapes and designs (A), followed by a transition (X), preceded more elaborate ones (B), which in turn preceded (Y), a 'slovenly breakdown'. Their correlation of vessel shapes and painted designs (Plate 145, A and B) led them to propose a seriation of A, X, B, and Y styles. They at first divided the last of these into three phases, Y1, Y2, and Y3, and in a recent revision of the method Kroeber reaffirmed the sequence of A, B, and Y, with Tiahuanaco traits appearing in Y2. He abandoned Y3, whose components were reassigned to Nazca A, and he questioned the validity of a transitional X.

At present (late in 1958), the earliest radiocarbon date for Nazca graves with A-style pottery is A.D. 300 ± 250, while Nazca B material from Chaviña in the Lomas Valley has been dated 636 ± 60.8 These dates confirm the sequence of A and B, and they serve as chronological centres for the early and late phases of the Nazca style. We are therefore given two stylistic groupings, called Paracas and Nazca, each with early and late stages. The late stage of Paracas (Necropolis) and the early stage of Nazca (A) overlap enough to justify our treating the entire phenomenon as a stylistic unit with early, middle, and late phases, of which the dominant expressions were pottery and textiles.

## Architecture

Before discussing these sculptural and pictorial systems, we must consider the architectural production of the peoples of the south coast valleys. There is no evidence that the Paracas peninsula was inhabited by the wealthy people who were buried there. Poor fishermen made a living on the beaches, but the rich burials were brought to this desolate site, perhaps from the Ica Valley, 55 miles away, and from the Chincha and Pisco Valleys, 20–25 miles distant. The Cavernas tombs adjoin the Necropolis. They are bottle-shaped excavations in a yellow slate-like rock. The nearby Necropolis tombs are chambered and rectangular constructions, built among the remnants and refuse of an earlier occupation of Cavernas type (Figure 104).

Of Late Paracas (Necropolis) dates are certain mounds in the Ica and Nazca Valleys.<sup>10</sup> One at Ocucaje in the Ica Valley is built of bundled reeds and rectangular adobe bricks

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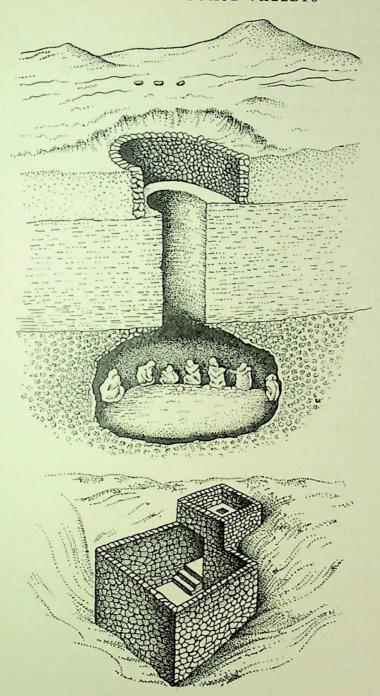


Figure 104. Paracas peninsula, underground burial structures of Cavernas and Necropolis types, c. 500 B.C.-A.D. 500

in a mammiform shape 50 m. (165 feet) in diameter and 4 m. (13 feet) high. Other remains of connected dwellings on rectangular plans at Cahuachi show post and wattle construction daubed with clay.

The most extensive Early Nazca ruins are at Cahuachi on the middle stretch of the Nazca river, where a pyramidal platform of wedge-shaped adobes 65 feet high, over-looking several clusters of rectangular rooms, rises upon a steep hillside. Other terraced platforms rise north and east, some with conical, grooved adobes. None approaches the grandeur of north coast architectural remains. There is a peculiar wooden assembly

at La Estaquería, near Cahuachi, of very late date (1055 ± 70 by C14), connected with Nazca B and Early Tiahuanaco (Nazca Y) remains in the region. It consists of twelve rows of twenty upright tree-trunks, forked at the top and spaced 2 m. (6 feet) apart. The purpose of the monument is unknown. The arrangement resembles the regularly spaced stone piles in the deserts between the upper valleys of the Nazca drainage.11 These in turn are part of an immense network of lines, stripes, spirals, and effigies, all executed on a colossal scale upon the barren table-lands above the Palpa and Ingenio rivers, in an area about 60 miles long and several miles wide (Plate 143). The weather-worn surface of small stones is dark, but the sand and gravel just underneath are much lighter in colour. The lines and stripes were formed by piling the dark surface stones along the sides of the exposure. Many straight lines strike across the plateau and rise without lateral deflection up precipitous slopes to vanish inexplicably, going between points of no particular distinction without any pretence of serving as paths or roads. Certain modular measurements recur: lengths of 26 m. and 182 m. (7 times 26) have been ascertained. Miss Maria Reiche, who has patiently plotted and computed the plans and their possible use as astronomical sighting-lines, finds that some mark solstitial and equinoctial points upon the horizon. Others may point to the rising and setting of certain stars, such as one in the constellation of Ursa Major, which coincided with the annual flood season in November at the beginning of the agricultural cycle. The stripes of expanding width may record intervals in the observations taken upon a given star.12

We can only guess at the methods used to plot these giant figures with such remarkable geometric regularity. Some scheme of enlarging the parts of a model design by fixed proportions has been supposed for the rectilinear portions. The large curved figures of plants and animals may have been constructed with the help of rectilinear

guide-lines, of which faint traces remain here and there (Figure 105).

The function of the effigies is unknown, but their style is close to that of Nazca A drawings. They represent a fish hooked upon a line, a spider, a bird in flight, a branching tree, all drawn at colossal size in continuous lines the width of a footpath. They may be images symbolic of the constellations. One may also imagine that their outlines served as processional paths for celebrants in rites of imitative or compulsive magic. Surely their 'drafting' required many generations of work, because the interlacing of successive lines and designs in some areas shows many layers in a dense grid of overlapping intersections that betray a constantly shifting design.

It is perhaps unexpected, but it is not improper, to call these lines, bands, and effigies a kind of architecture. They are clearly monumental, serving as an immovable reminder that here an important activity once occurred. They inscribe a human meaning upon the hostile wastes of nature, in a graphic record of a forgotten but once important ritual. They are an architecture of two-dimensional space, consecrated to human actions rather than to shelter, and recording a correspondence between the earth and the universe, like Teotihuacán or Moche, but without their gigantic masses. They are an architecture of diagram and relation, with the substance reduced to a minimum.<sup>13</sup>

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# Pottery

The south-coast peoples lacked writing in any form. Pottery painting and textile decoration therefore carried the burden of recorded communication. The climate, even more arid than on the north coast, and the elaborate burial customs are responsible for the extraordinary state of preservation of huge quantities of pottery and textiles recovered from Paracas and Nazca tombs. The pottery shapes all have rounded bases (Plate 145, A and B), quite unlike the ring bases and the flat basal planes of north-coast pottery. These globular bases indicate a domestic architecture with loosely packed, sandy floors, in which the rounded vessels easily stood upright. The shapes are much more variegated than in the Mochica culture. From the earliest period, the polychrome decoration stresses conceptual abstractions and combinations more than pictorial descriptions of the environment. The representation of action shared by several figures is totally lacking. There are no conventions for showing landscape or housing. The preference for complex colour relations also required a bold patterning by areas, precluding the refinements of draughtsmanship to which the Mochica potters were dedicated. In brief, the Mochica painters attained animation at the expense of colour, unlike their south-coast contemporaries, who secured polychromy at the expense of pictorial range. The principal topics for a discussion of south-coast pottery are shape, colour, design, composition, and iconography, which are of course the customary divisions required by the consideration of the art of painting.

Cavernas shapes afforded smoothly curved surfaces for incised and painted designs (Plate 144A). The effigies of heads, as of seated or standing persons, have slowly curving pear-shaped contours to permit clear linear incision of the principal details, as in the art of Chavín, where linear articulation of the design was also predominant. Necropolis shapes are more sculptural in abandoning linear and painted decoration and in the use of sharply angled contours and ribbed panels reproducing the shapes of gourds and squashes (Plate 144B). Nazca A shapes once again favour the painter in avoiding vessel forms of extreme contour, and in providing large curved surfaces for the development of repeating or encircling figures (Plate 145A). Nazca B shapes run to elongated vases and goblets of flaring or undulating contour (Plate 145B). Modelling of human or animal features appears, and the decoration includes many bands and zones corresponding to the increased complexity of the vessel shape.

The history of the Nazca colouristic achievement can be reconstructed in part. The earliest pottery prefiguring Nazca multi-coloured firing is the style of Cavernas on the Paracas peninsula. A variant is known from Ocucaje and Juan Pablo in the Ica Valley. The vessel forms are bowls, jars, and spouted containers. They are decorated with patches of a powdery pigment of bright, high-key earth colours applied after firing (Plate 144A). This method of colouring the incised designs is called 'crusting'; it appears only on sites belonging to the Paracas style, sometimes in conjunction with resist (or 'negative') painting, such as we have seen in the Ancash series. Occasionally the incised and coloured designs resemble Chavín forms, but these connexions with the north are infrequent. They suggest a date equivalent to Salinar in the Chicama Valley, because of

their association with vessels of a globular form surmounted by a pottery handle connecting the tubular spout with a modelled head.<sup>15</sup>

In the late Paracas period, post-firing or 'crusting' continued, but with more colours, of a heavy resinous consistency, in large patches separated by incisions cut deeply into the polished clay. Resist-painting appears alone, no longer joined with crusting on the same vessels. Another Late Paracas type is rare – a white, slipped, and polished pottery of gourd and vegetable shapes, most common in the Chincha and Pisco Valleys (Plate 144B). It occurs in diminishing quantities farther south, at Ocucaje in Ica, and Cahuachi in the Nazca Valley. Upon white grounds, the Nazca potters gradually learned to fire the paint in as many as twelve colours, attaining polychrome effects more varied and more brilliant than those of all other ancient American vessels. <sup>16</sup> Like the painting of other pre-Columbian peoples, however, Nazca colour rarely imitates appearances, being restricted to symbolic conventions for abstract ideas by means of solid and ungraded tones. Shadows or modelling are therefore absent from Nazca practice.

The stages of the development have not been definitely reconstructed, save for the seriation proposed by Strong.<sup>17</sup> As we have seen, the radiocarbon dates still do not allow a sharp chronological separation of Strong's Proto-Nazca, Early Nazca, and Middle Nazca 'periods', which may all be regional variants of the same experimental tendency towards fired colouring of wide variety. They are most readily treated together as the components of the Nazca A style (Plate 145A). In Strong's Proto-Nazca collections from Cahuachi, fired colours up to six in number are painted over incised outlines. The attainment of brushed colour without incised boundaries characterizes Strong's Early Nazca. His Middle Nazca has cream-white or red backgrounds bearing fine-line brushed designs which surround boldly contrasted areas of local colour. The ground and the design are clearly separate, and roughly equivalent in area. 'Early Nazca' is cruder than either Proto-Nazca or Middle Nazca, which may well be coeval. Middle Nazca in any case is the climactic achievement, with large and eloquent forms from nature curving round the vessels as integral shapes in simple, clear outline, painted in many colours of fired slip and burnished to a high polish. In museums this polish is often enhanced by modern waxing, which simulates the original brilliance lost during many centuries of interment beneath alkaline sands. Nazca B colour is even more variegated, with the surfaces broken into many small areas of repeating forms, usually in a high key and in several registers (Plate 145B). White grounds are more common than in A, and the number of six-colour designs is greater.18

Effigy vessels and figurines representing men and women form an important part of the Nazca B style. Only the main contours of head, torso, and legs are modelled: all other features are painted in a conventional manner precluding all individuality. The main variations appear in proportions and in the painted symbols on the bodies.<sup>19</sup>

Paracas and Nazca designers from the beginning relied upon line, whether incised or painted, more to separate areas of colours than to circumscribe them. Unlike Mochica line, which is cursive and mobile, Nazca line is passive because it merely surrounds other modes of describing, without itself having active properties, such as variable thickness, or conventions of foreshortening in curving and tapering contours. Nazca colour rela-

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tions probably came first in the designer's mind. He executed them with slip clays in several tints. Thus a vessel with adjacent and overlying areas of magenta, rust, white, grey, and red would be finished in black outlines separating the adjoining areas. In this technique, the line is merely cosmetic, serving to define the principal colour relations, and contributing little to their fundamental order. Early Paracas potters incised these separating boundaries; Nazca potters painted them with some sort of stylus, perhaps a thorn or a quill, avoiding any variation of thickness in the same contour. Nazca A vessels rely less upon linear definition than Nazca B, where the broken and active forms required a more energetic line than the large, closed shapes of the earlier manner (Plate 145, A and B).

Composition is the orderly arrangement of images and signs. Special problems arise in composing the curved surfaces of pottery, because optical space must be adapted to the surfaces of spherical and cylindrical containers. Repetitious order approaches decoration. Heterogeneous order approaches pictorial form in the case of images, and writing in the case of signs standing for ideas. Whether a composition be repetitious or heterogeneous, its frame on a pottery vessel is never so completely defined as on flat surfaces. A repeating order re-enters itself, and a heterogeneous order has no lateral boundaries, because of the geometry of vessels, which consists of globes, cylinders, cones, and combinations of curved surfaces.

The oldest south-coast vessels from the Paracas burials, however, escape these conditions because their makers were more interested in sculptural representations than in painted ones. Some vessels have repeating geometric designs, and a few others have repeating compositions based upon forms seen in nature, but many Cavernas vessels are effigies, or bear natural forms, which combine sculptural representation of the heads with painted and incised representations of the bodies. These are split in two to decorate front and rear faces of the same vessel. This sculptural propensity continued in Necropolis wares, with modelled representations of fruit and squashes, of birds and frogs, without any painted modifications whatever.<sup>20</sup>

Hence the emergence of a painted style in Nazca pottery shows a complete transformation in compositional habits, from geometric designs and sculptural increments to schemes of repeating images and pictorial compounds. In the initial, A phase of the Nazca style, the images tend to be repeated, with a few large reiterations of almost ideographic forms, stylized to the point of generic images without individual characteristics (Plate 145A). In the B phase, a single form such as the 'jagged-staff demon' 21 is enlarged by annexes, extensions, reduplications, and other proliferations all contained within a single organic outline, and occupying the entire surface (Plate 145B). Repetitious order of course continued, but the themes became smaller and more cursive, with details omitted in the interest of lively surface patterns. Moving figures, such as running human beings, are represented. The number of sculptural forms increased, with effigy vessels and modelled increments returning to fashion. These considerations of compositional technique bring us directly to the question of the meaning of the images on Nazca pottery, that is the problem of iconography.

The principal motifs are anthropomorphic. The most common image represents an

elaborately dressed human being, burdened with animal attributes (Plate 148A). Symbols of feline origin predominate, such as a whiskered mouth. Examples of beaten gold appear in the mummy bundles. Other attributes of feline character are spotted fur, and rings on the paws and tail. The Nazca representations of felines differ radically from those in Cavernas pottery of Chavín style: there the tusk-like incisor teeth were the principal mark of feline nature, but in Nazca iconography the whiskered mouth is its main symbol.<sup>22</sup>

Other important themes (Plates 147 and 148B and Figures 105 and 106) are representations of the whale-killer (*Orca gladiator*) and of predatory birds, such as the falcon (*Pandion haliaetus*). Severed trophy heads and many plants and weapons enrich the repertory. Female figures are common in the B style both in full-figure effigies and in painted representations of faces alone.

There are no texts to aid the interpretation of these motifs. All modern efforts to explain them proceed from the classification of the themes, and from analogies with unrelated cultures where ethnographical explanations have been collected. Thus E. Seler, who first listed the motifs, identified them as demons; the feline figure was a divine provider of food; the cat-demon with human or bird attributes represented the souls of the dead; and other figures were 'vegetation-demons' or 'jagged-staff demons' of uncertain powers, composed of cactus-like branches and spines.<sup>23</sup> In the absence of written sources, however, the conventional meanings of these forms cannot be certainly known, and all that we can hope to do is to establish their intrinsic meaning.

It is probable that the compositions convey relationships among ideas rather than among things. Unlike the Mochica painter, who delineated the lively image of a running man as the eye sees him, the Nazca artist painted the idea of swiftness by joining the images of arrows and whale-killer fins (Figure 106A, B). As in the art of Chavín, many of these forms and their abbreviations were interchangeable. The eye-markings of certain falcon species are used to adorn human eyes. The serrated mouth and the dorsal fin of the whale-killer likewise enter a variety of contexts (Figure 106). In principle, any part of an animal form may be invaded by images of parts drawn from other species. A falcon's body has human trophy heads on the neck, on the back, and on the tail. Each feather is a simplified trophy head, with eyes and mouth shown as dots on the rounded feather tips. In the cat's whisker motif, each hair is likewise a trophy head. In Figure 105 the back outline of the falcon has pointed serrations, a repetitious shorthand for the dorsal fin of the whale-killer.

Such processes of composition are more verbal than visual: they resemble the metaphor. The whale-killer is swift, and so is the falcon. Since both are swift, parts of either may stand for the idea of swiftness. The whale-killer therefore has a dorsal fin like a feather (Figure 106). Elsewhere arrows are substituted for feathers: the idea of sharpness also permits knives to stand for arrows, or for fins. Both felines and hunters are predators, and may therefore wear trophy heads and whiskers.

These metaphoric associations suggest an intricate ritual of sympathetic and imitative magic. The human being assumes the special faculties of admired animals by wearing their attributes. His vision will be as sharp as the falcon's if his eyes are painted with the

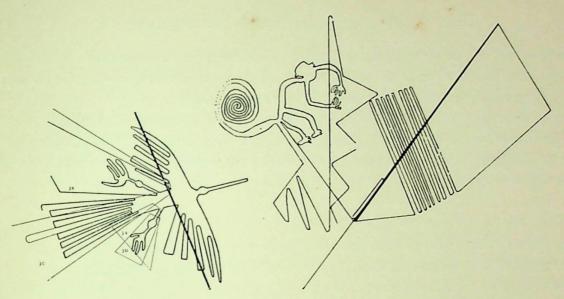
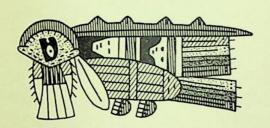
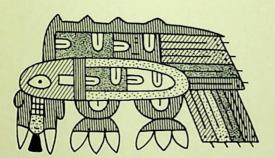


Figure 105. Ground drawings, possibly processional paths, outlining a bird and a monkey, Nazca style, Nazca river drainage, first millennium





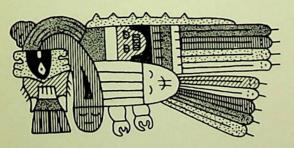


Figure 106 (A). Bird designs with whalekiller and trophy head substitutions, Nazca B style, sixth and seventh centuries (?). Lima, Museo Nacional

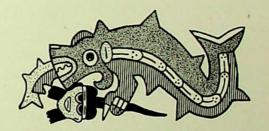






Figure 106 (B). Whale-killer design with feathers and trophy head substitutions, Nazca B style, sixth and seventh centuries.

Lima, Museo Nacional

falcon's markings. His success as a fisherman will increase if he wears whale-killer attributes. In addition, the puma, the falcon, and the whale-killer were all surely deities, worshipped by impersonators wearing the divine markings.

Individual beings and individual events are never represented. The paintings show actions outside the time of real happening with its infinite number of accidents. The repertory is more various than in the art of Chavín, and it is less specific than in Mochica painting.

# Textiles

The south-coast weaves of Peru have few parallels anywhere in the world for fineness and intricacy. Not only is the preservation remarkable, owing to the extreme aridity of the climate, but the antiquity of Peruvian weaving in the pre-ceramic samples excavated by Junius Bird at Huaca Prieta, and dated by radiocarbon measurements as of about 2000 B.C.,<sup>24</sup> approaches the most ancient Old World specimens. Embroidered textiles in the distinctive rectilinear and curvilinear style of Paracas–Nazca design occur in the Cavernas, Necropolis, and Nazca A periods, spanning perhaps a thousand years, from 500 B.C. to about A.D. 500. The complete range of Nazca B textile decoration has so far not been identified.<sup>25</sup>

Certain formal and technical conditions of textile art need to be mentioned before we discuss the history of Paracas and Nazca fabrics. Because the woven support for the design is flexible, meant to be worn as clothing in unforeseen folds and overlappings, textile designers are always reluctant to cover the surface with large pictorial compositions which are visible only when stretched out, as could be done in tapestries. Far more appropriate for clothing are small-figure designs of geometric character, spaced in repeating patterns so that one visible portion suggests and recalls all the portions concealed by the folds of the cloth. The technical requirements of the loom further restrict the designer: large curvilinear forms are generally impractical. The weaver must resolve all curves into the rectangular co-ordinates of warp and weft. An escape from the requirements of the loom is given only by additive techniques imposed upon the finished cloth, such as embroidery and certain brocades.

The chronology is incomplete, but it parallels the ceramic history of the region, in the equence of Cavernas and Necropolis-Nazca A. No earlier stages are known, and the Cavernas weavers already possessed a fully developed knowledge of spinning both cotton and wool, as well as of dyeing and all the principal loom techniques.<sup>26</sup> The use of wool wefts in the earliest period proves commerce with the highlands, because the wool-bearing animals of Peru (llama, alpaca, and vicuña) cannot survive in the coastal climate. The loom was of simple backstrap construction with heddles to lift the warp threads. The weight of the weaver against the backstrap controlled the tension of the warps. With this simple equipment the weavers produced cloths of extraordinary sizes. A plain-weave cotton cloth found by Strong at Cahuachi measured 7 m. (23 feet) in width and 50-60 m. (160-200 feet) in length, all apparently one single piece.<sup>27</sup>

The construction of these textiles shows distinct historical changes relating to taste more than to invention. Plain cotton weaves, some with interlocking warps and wefts,

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characterized the Paracas cloths on both Cavernas and Necropolis sites. Embroidered decoration in stem stitch on a plain cloth base was the technique preferred by the makers of Necropolis and early Nazca textiles. Tapestry technique (more weft than warp, and weft completely concealing the warp) is rare. Twills are not known, but double cloths (reversible fabric woven on two sets of warp) occur in the Cavernas tombs. Floating warp patterns, which require expert control, and gauzes (weft passed through twisted warps) are further evidence of the maturity of weaving in the earliest known south-coast period.

Cavernas colours number only about ten or twelve clustering around brown, red, yellow-orange, blue-green,<sup>28</sup> and the natural whites of wool and cotton. Grey was achieved by spinning brown and cream fibres together. The total effect was far less brilliant than in Necropolis and Nazca embroideries, where some 190 hues were used, with the dark colours numbering about two-thirds of the total. They were used in variations of local tone on repeating figures of identical contour and varying direction. These regular chromatic sequences were saved from monotony by frequent inversions and changes of rhythm <sup>29</sup> in the hue, intensity, and value of the repeating fields of colour. A mantle, for instance, displays perhaps a hundred repeating figures, divided into several distinct sections of surface pattern carried by colour alone (Figure 107). The patterned colour sequence in each section may follow straight or broken courses. Sometimes the sequence reverses in a given course, or an expected sequence is invaded by a rhythm from another sequence in a separate section. These variations of shape, direction, and colour are comparable to the movements of a musical composition.

To grasp so many variations simultaneously is impossible: our eyes can hold the sequence of only two or three at once, although the weavers and the users of these fabrics were probably accustomed to retain many more in a process not unlike our habituation to polyphonic music. Paracas embroideries cannot properly be called pictures, because pictorial composition implies the arrangement of diverse images upon a field in an order manifesting some unity. In Paracas embroidery, the same shapes repeated in sequence form, not a picture, but a decoration approaching musical form.

Most knowledge about Paracas embroideries comes from the collection excavated by J. C. Tello at Cerro Colorado on the sandy peninsula in 1925, some 11 miles south of Pisco Harbour. Tello transferred 429 mummy bundles from the 'Necropolis' burials to the Archaeological Museum in Lima. A few have been opened and studied.<sup>30</sup> From the published accounts it is clear that at least four stylistic groups can be isolated.

Rectilinear only (Plate 146):

1. Plectogenic shapes, woven, embroidered, or painted, Cavernas and Ocucaje.

Dimorphic (both rectilinear and curvilinear):

2. Static anthropomorphic and animal figures of simple contour. Bundles 217 (Figure 107), 421.

3. Animated figures rendered by overlapping planes (Figure 109). Bundles 157, 382.

# Curvilinear only:

4. Contorted figures; indented contours; prominent attributes in costume and on tentacles (Plates 147 and 148B and Figure 110). Bundles 290, 378, 318, 319, 451.

Group 1, the earliest, is a plectogenic style, imitating the structural limitations of loom technique in embroidery and in painted cloths (Plate 146). The textiles of the Cavernas period all bear plectogenic decoration. It consists of straight portions of horizontal, vertical, and diagonal lines, without curved portions of any sort. This totally rectilinear manner continued into the Necropolis period, where it coexisted with the simpler styles of embroidered curvilinear ornament.<sup>31</sup> It disappeared in the more ornate textile assemblages of later date.

The rectilinear mode is categorically different from the freehand curvilinear style. It has different objectives; it forms a separate tradition, and attains effects impossible in the

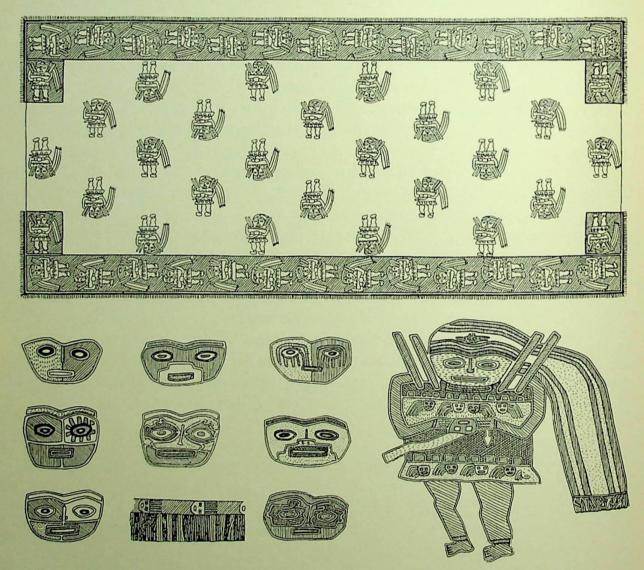
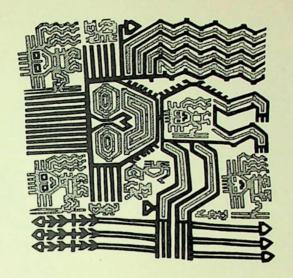


Figure 107. Embroidered Paracas mantle and details of recurrent design, Mummy 217, from Necropolis, before 500. Lima, Museo Nacional



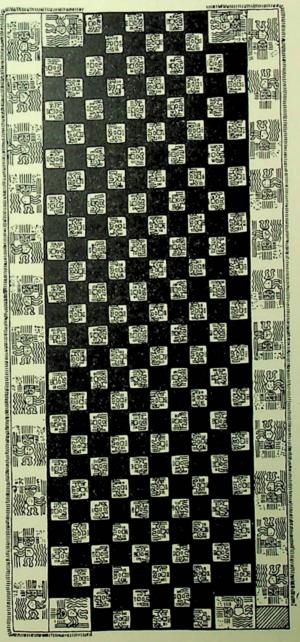


Figure 108. Embroidered Paracas mantle and enlargement of rectilinear motif, Mummy 217, from Necropolis, before 500. Lina, Museo Nacional

curvilinear style. The curved-line style is pictorial. It represents opaque bodies in an effort to reproduce retinal images, by overlapping planes and monotone forms of solid colour (Figure 107). It derives from pottery painting and from painting on cloth. The plectogenic style is ideographic rather than pictorial. Its forms occupy all the available space with networks of parallel contour lines. Inside and around itself, the main theme repeats on a smaller scale. The bodies are like transparent containers to admit these echoing recalls (Figure 108).

The loom-determined limitation to rectilinear portions of line originally required a numerical formulation of the weaving process, with the operator trained to follow or memorize a complex series of motions in sequence. The transfer of plectogenic forms to embroidery and painting gave the designer greater freedom to improvise, but he retained the rectilinear mode probably because of its ideographic tradition, which permitted kinds of statement impossible with a pictorial system based upon visual effect.<sup>32</sup>

In groups 2 and 3, both modes of design were in use. Bundle 217 contained a cloth with rectilinear and curvilinear styles. The sources of the freehand pictorial style are preserved in a few painted cloths,<sup>33</sup> of which one in Cleveland (27 by 8 inches) portrays five shamans dressed in animal skins and brandishing knives and trophy heads (Plate 148A). The details are rendered with a firm, descriptive line of which the embroideries give us only a weak reflection.

Yacovleff and Muelle showed that the embroiderers failed to comprehend or to reproduce faithfully the designs of the Nazca ceramic repertory. Such paintings as the Norweb Cloth make it evident that even the potters owed their craft to this art of paint-



Figure 109. Detail of Paracas embroidery with overlapping planes, Necropolis style, before 500. Lima, Museo Nacional

ing on cloth, of which the rare fragments give us only a tantalizing glimpse. What became of it all must be answered as in Egypt, where only the funeral gifts have been preserved. Actually, the border of the Cleveland mantle fits best with our group 4, because of the enormous tentacle-like tails, tongues, and antennae, which compose an undulating rhythm. The early embroiderers usually portrayed only one theme per cloth, in many repeats, without variation in contour (Figures 107 and 108).<sup>34</sup>

On the embroidered garments in group 2 (Figure 107) each figure is clearly and simply presented, with the legs in profile and the head and torso in frontal view. The colour fields are few. The poses are stiff and awkward, like the heraldic faces in a pack of cards, stating their message boldly and unequivocally.

Our group 3 displays more animated contours. A variety of overlapping planes establishes the bodies in visual space (Figure 109). At the

# THE SOUTH COAST VALLEYS

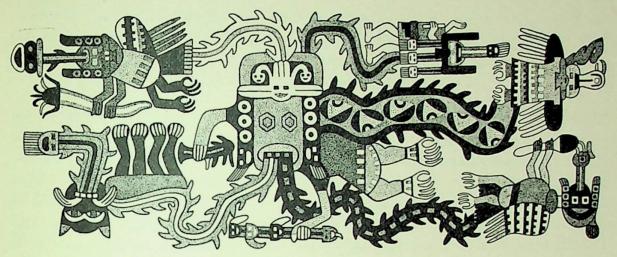


Figure 110. Details of Paracas embroideries with tentacled extensions, Necropolis style, before 500. Lima, Museo Nacional

same time, the attributes are more numerous, and their interaction with the organic figure destroys its plausibility.

Group 4 differs from the simpler modes in deeply indented figural outlines, with the appendages treated as tentacles, to which the figure itself is an accessory (Figure 110). The multiplication and compounding of attributes becomes ideographic and ambiguous. Thus the eyes of a human being serve simultaneously as the eyes of the whale-killer in two head-dress decorations (Plates 147 and 1488). These whale-killer forms also allow the figure to be read as a diving personage when it is seen upside down. Other attributes repeat and multiply with organic connexions in every cranny and division of the design. Both the inverting figures and the self-extending designs strongly recall the tautologous compositional devices of a late stage in the art of Chavín, as in the Raimondi Monolith (Plate 127).

The Paracas and Nazca A embroiderers <sup>35</sup> were nevertheless poorer in thematic variety, and less consistent in the rules of combination, than their pottery-painting contemporaries. Attributes and figural types are more freely compounded in the embroideries, so that elements which never concur in pottery (e.g. whale-killer and bird forms) appear on the same figure in certain embroideries. The Paracas embroidery designer usually departed farther from the visual image in his search for rhythmic variation by colour, and he represented fewer themes. Most of the varieties of fish and marine birds, as well as the shrimp, toad, lizard, fox, and rodent and the partridges and swifts of Nazca pottery, are absent in the embroideries. As Yacovleff and Muelle observed in their brilliant essay on Paracas art, <sup>36</sup> the potters held the lead, and the embroiderers were derivative in the creation and exploration of the south-coast pictorial tradition.

# THE END OF NAZCA ART

# The Tiahuanaco Period (c. 950-1200)

The replacement of the Nazca style by a style of highland origin, based upon a few angular and ideographic figures, was far more abrupt and decisive in the south-coast valleys than in central or northern Peru.<sup>37</sup> The place of origin and the nature of the diffusion of this remarkable pictorial art, which is more like a language than like a style bound to time and place, are still obscure. Most authorities view the art as originating at Tiahuanaco in Bolivia, and as an expression of a religious cult with high attractive power. Others regard Wari (Huari) in the Mantaro basin as more central, and they ascribe the diffusion to military expansion by highland tribes. Both groups of students concur, however, in designating the south Peruvian style of the Mantaro basin and of the coastal valleys as a 'Tiahuanaco horizon' datable to the tenth century and later. The initial appearance was abrupt at every place concerned, followed by a slow degradation of the Tiahuanaco forms towards more schematic and cursive ciphers which endured until the thirteenth century.

The earliest intrusion of the Tiahuanaco style upon the disintegrating Nazca tradition of the coastal valleys was on the Pacheco site near the city of Nazca. Here Tello in 1927 found nearly three tons of polychrome sherds, which could be restored to make entire vessels. There were twenty gigantic tubs or tinajones of various shapes, and a hundred vases with full-scale human faces modelled on the constricted necks, as well as three large llama-figure vessels. Several of the largest tubs are inverted bell shapes, containing 120 litres (26 gallons), and measuring 64 cm. (25 inches) in height and 75 cm. (30 inches) across the top, with walls nearly 5 cm. (2 inches) thick (Plate 150B). Others are flaring cylinders of the Classic Tiahuanaco kero (cup) shape, 50 cm. (20 inches) across the top, 35 cm. (14 inches) at the base, and about 60 cm. (2 feet) in height, with a capacity of 50 litres (11 gallons). The bottoms are all flat, unlike those of the vessels of the Nazca tradition. It is likely that this immense deposit of pottery was for ceremonial use, and that it was all smashed intentionally in some episode of unrest.

The painted forms are of two kinds, uniting the Nazca and Tiahuanaco traditions: plants of curving outline in a free descriptive intention, and geometric human figures with rectilinear outlines and ideographic features.<sup>38</sup> The pictures of plants, shown in light tones on a dark ground, represent highland species of vegetables, tubers, and cereals. Each plant appears complete with roots or tubers, blossoms, leaves, and edible portions depicted as clearly as in an early European botanical woodcut. The style, however, is Nazca in the exaggeration of distinctive traits.<sup>39</sup>

The ideographic figures have square faces from which tentacles radiate (Plate 150B), bearing heads of fishes, birds, and pumas, as well as stylized fruit and flowers. Their close resemblance to the central sun-gate relief at Tiahuanaco makes it likely that both representations signify the same thing. No text exists to allow an identification. Both belong to the same figural tradition, which probably originated in textile design, and

## THE SOUTH COAST VALLEYS

which also may have spread by commerce in textiles. The net effect of the Pacheco tinajones suggests a message of religious and agricultural content, as if to connect the worship of the square-faced Tiahuanaco deity with certain highland food plants.

The modelled faces on the necks of the large jars (Plate 150A) are among the most commanding examples of ancient Andean sculpture, resembling archaic Greek heads in the geometrically governed regularity of their proportions. On the surfaces a network of polychrome slip in geometric figures reinforces the impression that some mathematical order underlies this art. Other vessels are double containers, with an effigy connected by a short tube to a cylindrical cup. Large single effigies of standing or seated llamas again indicate the highland origin of the whole style. Certainly contemporary with the Pacheco style are the fine tapestries in the Tiahuanaco style of which some are found in museums, often with provenances pointing to south coast valleys. Their forms are those of Classic highland Tiahuanaco art in stone and in pottery, frequently subjected to extreme geometric deformation, especially by lengthening the design in one direction but not in the other.

Menzel estimates this first period of the 'Middle Horizon' as lasting only about fifty years. Local derivations and adaptations followed in the eleventh and twelfth centuries, with the centre shifting from Nazca to the Ica Valley. These derivations became progressively coarser. The Nazca style components disappeared completely as the shapes and colours became more and more debased. The Pacheco style probably heralded the cultural subordination of the south-coast valleys to highland masters: thereafter, provincial slovenliness marked all work until the emergence of a new local style in the Ica Valley.<sup>40</sup>

In the Ica style, after about A.D. 1200, rounded vessel bases returned to fashion. The painted decoration consists of textile imitations or transfers, depicting birds or fish in black, white, and red dots and bars as if in woven technique (Plate 151A). Some curvilinear feline and bird shapes retain a distant connexion with Tiahuanaco antecedents. Carved and painted wooden agricultural tools of ceremonial form are another characteristic Ica Valley product during these centuries. The outlines are carved with rows of men or birds, and a panel of pierced work in geometric rows, like those of the pottery, usually forms the head (Plate 151B).<sup>41</sup> The Ica style preceded the Inca conquest of the south coast, and it probably corresponds to a period up to the fifteenth century, when the valleys of Cañete, Chincha, and Pisco each had independent tribal rule, and engaged in hostilities against each other without much knowledge of conditions elsewhere in Peru.<sup>42</sup>

Under Inca rule in the fifteenth and sixteenth centuries, the Nazca and Ica Valleys were relegated to an even lower provincial rank than in the preceding period. The centre of regional administration shifted to the Pisco, Chincha, and Cañete Valleys, where the most imposing buildings of the late period were built. Other than these edifices, there are few works of art to consider here. The Chincha Valley was perhaps the centre of government in the region: the Pisco Valley probably afforded an avenue of communication with the Mantaro basin and the provinces surrounding Ayacucho; and the Cañete Valley was the coastal link to the central coast settlements.

The buildings are massive piles of adobe clay in brick or tapia construction. Certain groups of early date, like the Huaca de Alvarado in the Chincha Valley, are built of ball adobes of Paracas date. La Centinela (Plate 152) in the Chincha Valley has a terraced platform of tapia rising 100 feet above the valley floor, and built in the late pre-Inca style. A palace at its south-western corner drops away in several terraces to the plain, with courts and halls as well as galleries and esplanades, all of Inca date, and built of rectangular adobes. In the Pisco Valley, Tambo Colorado is the best-preserved adobe building of Inca date in existence. The main compound has a courtyard with buildings of large flat adobe bricks on terraced levels around it. The walls have storage niches painted red, yellow, and white. It was probably an inn, with storehouses, barracks, and administrative quarters. This architectural tradition of buildings round closed-corner courtyards, in massive adobe construction and with niched walls, probably originated on the central coast, where the oldest buildings of this type may be of the tenth or eleventh century, combining highland requirements with coastal materials and construction habits.

#### CHAPTER 16

# THE SOUTH HIGHLANDS

The principal urban centres in the southern highlands occupy three major basins: the region called the *altiplano*, surrounding Lake Titicaca at the boundary between Peru and Bolivia; the region from Ayacucho to Jauja in the Mantaro river valley basin; and the Cuzco region near the headwaters of the Urubamba river. The basin of Lake Titicaca supported early civilizations at Pucara and at Tiahuanaco from about 500 B.C. until after A.D. 500. Thereafter the style of Tiahuanaco spread to the Mantaro Valley and to the Cuzco region. A style like that of the Mantaro phase eventually appeared in the south coastal valleys beginning, as we have seen, about A.D. 900 in the Pacheco ceramics of the Nazca Valley. The terminal stage of pre-Columbian history in the Andes was dominated in the fifteenth century by the imperial expansion of the Inca dynasty from Cuzco through the entire central Andes and into Chile, north-western Argentina, and Ecuador.

## THE EARLY ALTIPLANO

The plateau round Lake Titicaca (3812 m.; 12,500 feet) very early provided a subsistence for hunting folk and for pastoral peoples. The vicuña, llama, and alpaca supplied wool for textiles. The llama was probably domesticated here as the only native American beast of burden. Certain food plants such as potatoes, quinoa, and oca were also probably first domesticated here. The lake itself provided reeds for mats and boats, and fish for food. The surrounding mountains contain immense deposits of free metallic gold and copper, as well as silver, tin, and mercury ores for use by early metalworkers. An acclimatized people could easily achieve many fundamentals of civilization in this cold, treeless, and tundra-like country, but its limitations would eventually require the altiplano dwellers to expand to warmer climates either by commerce or by conquest.

Bennett demonstrated the lack of cultural unity in the basin when he divided it on archaeological evidence into six distinct provinces.¹ Under Inca domination the region was united politically, but even then four groups speaking different dialects of Aymara still occupied the basin. During antiquity, before A.D. 500, distinct northern and southern Titicaca styles are apparent, centred respectively at Pucara and at Tiahuanaco. It was long believed that the two styles were contemporaneous, until radiocarbon datings showed that the Pucara style flourished several centuries before the Tiahuanaco style.² Here we shall distinguish the site of Tiahuanaco from the style of the same name by referring to the site under its old Aymara name of Taypicala.

The Pucara site has monumental architecture of which only the foundations of red sandstone slabs survive. They form a C-shaped enclosure of irregular radial chambers



Figure 111. Pucara, stone pedestal figure holding trophy head, first century (?)

entered from within the curve, each containing one or two altar slabs. A sunken square court in the centre had a tomb chamber built of stone slabs in the middle of each face.<sup>3</sup> Above the dressed stone foundations, the now-vanished walls were of adobe clay, bearing thatched roofs. The stones of the wall bases are smoothly dressed, but they lack the channels for metal cramps and the other complicated stone joints that characterize the Taypicala masonry of a later period.

The figural art of the Pucara region is distinctive, but uneven in quality and variegated in technique. It is easily recognized by rounded body forms (Figure 111), unlike the cubical shapes of Tiahuanaco style, by stylized figures of edible freshwater fish called *suche*, 4 and by panelled flat reliefs of symmetrical volutes and zigzag lines carved in shallow relief on standing slabs like stelae. Some figures found at Pucara clearly belong to a later Tiahuanaco style, and others at nearby Caluyu may well represent an early stage in the history of the style.

The ceramic sequence for the northern half of the Titicaca basin, though still incomplete, shows Pucara preceding Tiahuanaco, and overlying an early ceramic style found at Caluyu. A radiocarbon date of 500 B.C. for the Caluyu pottery found near Pucara established its position. This pottery, decorated either by incision or in painted geometric designs of red or brown on cream, recurs near Ayaviri, upstream from Pucara, and around Sicuani, halfway to Cuzco.<sup>5</sup> It is contemporary with the earliest pottery from Chiripa near the southern shore of

Lake Titicaca, where stone houses surrounding a sunken court, as at Pucara, also occur.<sup>6</sup> The fully developed Pucara style of ceramic decoration (Plate 153) is of the first century B.C. by radiocarbon dating, and it is related to Pucara sculpture in the forms of representation. Modelled feline and human heads decorate a variety of vessels, further adorned by incised designs painted in black and yellow on a polished red slip. Only sherds are preserved, but the vessel shapes, the technique, and the designs stand to the Tiahuanaco style in much the same relation as Cavernas to Nazca pottery, displaying the same kind of progression from modelled and incised polychromy to a style dependent upon painted effects alone. It is true that Pucara depictions (Figure 111) are curvilinear on rounded planes,<sup>7</sup> while those of Tiahuanaco are prismatic and rectilinear (Plate 156), but the range of representations is nevertheless similar – so much so as to warrant their treatment as a stylistic unit, as in the case of Greek art, where Hellenic and Hellenistic sculpture offer a succession of stylistically related expressions.

Thus the art of Pucara may be regarded as an early stage of an altiplano style charac-

## THE SOUTH HIGHLANDS

teristic of the northern Titicaca basin. By the same token, Tiahuanaco is the late stage flourishing in the southern surroundings of the lake. Indeed, the Pucara sculptural styles seem to be the most ancient in the southern region. Both Bennett and Posnansky agreed in considering certain figures in the Pucara style at Tiahuanaco to be among the oldest sculpture in the district. These are the colossal kneeling figures flanking the churchyard entrance in the colonial village of Tiahuanaco.8 Others from Pokotia and Wancani, south of Tiahuanaco, are clearly related to Pucara. Two statues from near the village of Pokotia (Plate 154) also represent kneeling figures: one, with the face damaged, is of a greenish volcanic rock, and the other is of whitish sandstone.9 Both wear serpentturbans with massive braids falling symmetrically over each shoulder to end on the back in animal heads. The bared upper bodies show the ribs and navel, and the ponderous heads with protruding lips, high cheekbones, distended eyes, and aquiline noses resemble the modern Aymara Indians of the region. From Wancani, not far distant, come three prismatic stela-like stones, 4-5 m. (13-16 feet) long, carved with low-relief figures in several registers, representing suche-fish forms, human beings, and felines, 10 in postures of much animation, but treated more as glyph-like elements than as coherent pictorial scenes. These stones also represent standing human beings, with proportional divisions like those of the statues at Taypicala. But the surface reliefs recall Pucara sculpture more than the fine-line, small-scale incisions of Taypicala, so that perhaps we have in these southern basin sites a style intermediate between Pucara and Tiahuanaco. We can add to the southern group the monoliths of Mocachi and Santiago de Guata: they also represent standing human beings compounded with reliefs of suche-fish and felines.11 Bennett found one stela of this style at Tiahuanaco, together with many other sculptures from various periods,12 all brought together in an edifice of Late Tiahuanaco date.

To sum up, sunken courts surrounded by adjoining houses of rectangular plan, and statues, with anatomically descriptive planes, bearing relief decorations of felines and freshwater fish, characterize an early stage in the history of *altiplano* art. It endured until the first centuries after Christ, and it has been identified with Pucara, north of the lake. That site, however, may display only an important regional variant of a major style extending from Sicuani and Chumbivilcas in the north to the southern sites and eastward into the Bolivian lowlands. The division of the *altiplano* into northern and southern styles is perhaps less accurate than a chronological division by early and late phases of the *altiplano* style, corresponding to the type-sites of Pucara and Tiahuanaco–Taypicala.

#### TIAHUANACO

# Architecture

The archaeological zone called Tiahuanaco <sup>13</sup> or Taypicala includes several platforms, enclosures, and buildings, thinly spread over an area of about 1500 by 1300 yards and built of earth revetted with large fitted stones. It was a ceremonial centre, like Moche or Tikal or Teotihuacán, though far smaller, with buildings approximately orientated upon

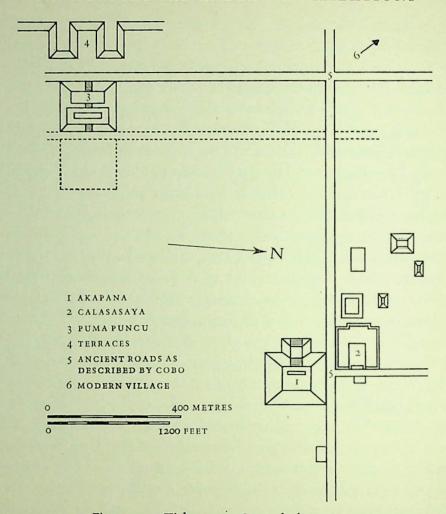


Figure 112. Tiahuanaco. General plan c. 500

the cardinal points (Figure 112). Like Teotihuacán, it was no doubt a station for observations of the solar year, and as such it was the centre of the cosmos, as suggested by its Aymara name, Taypicala, signifying 'the stone at the centre'.

The site has been sacked by every generation for five centuries. Each year of casual plunder has added to the disorder, so that the disintegrated array of stones and earthworks today allows us to form only a ghostly idea of the original appearance, now far beyond recall. Even with the most generous intentions, modern attempts to reconstitute Tiahuanaco yield only a loose group of edifices falling far short of the scale and importance of the greater Mexican and Maya centres, as well as of the principal coastal Andean sites. Tiahuanaco is comparable in magnitude and complexity to Chavín de Huántar or Cerro Sechín. Its foundation probably coincided with the later stages of the Pucara style in the centuries just before Christ, and it may have flourished under a variety of masters until the Spanish Conquest. The sculpture and the pottery for which Tiahuanaco is celebrated were produced during a period of which the 'Classic' phase can be given a radiocarbon date about A.D. 300. The later phases of Tiahuanaco history are unknown, although the coastal importance of the Tiahuanaco style from 900 to 1250 strongly suggests that the highland site was still a functioning religious centre.

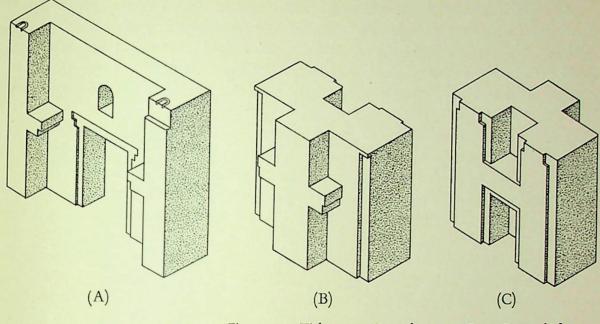


Figure 113. Tiahuanaco. Dressed stones at Puma Puncu, before 1000. (A) Doorway block; (B) and (C) Opposite faces of a wall-block carved with niches

The ancient site stands at an altitude of 3825 m. (12,520 feet), south of the river, in a wide valley of well-watered pastures which today support some 20,000 inhabitants on a cultivable area of about 600 km. (232 miles). The main group of buildings, dominated by an earthen platform, consisted of several structures surrounded by a moat or ditch, 50 m. (165 feet) wide, designed to catch surface water and to connect various springs (Figure 112). The moat drained northward into the Tiahuanaco river, using the bed of one of its small affluents on the eastern side of the enclosure. Half a mile to the southwest is another edifice, called Puma Puncu, which today consists of a mound and many large stones strewn in disorder, near a terraced bastion overlooking the basin of a small stream called the Waricoma, which joins the Tiahuanaco river. Recent studies suggest that both groups of edifices once formed a single ritual centre connected by roadways intersecting at right angles. This is shown in dotted lines on our plan, which has been adapted from Ruben and Ibarra Grosso.<sup>14</sup>

3 FEET

Great uncertainties surround the question of the original form of these buildings. The principal units are an earthen platform, called Akapana (210 by 210 by 15 m.; 690 by 690 by 50 feet); a platform-enclosure called Calasasaya; and the other platform group called, as we have seen, Puma Puncu (Figure 113). Ibarra, Mesa, and Gisbert extracted from sixteenth-century texts a reconstruction that shows the Akapana as a pyramidal platform with a narrow chambered building facing west; the Calasasaya as a U-shaped platform facing east (135 by 130 m.; 430 by 445 feet); and Puma Puncu as a repetition of the same two forms, both facing east. They also adduce the Kantataita stone, a large monolith carved with diminutive stairways and a sunken court, weighing 900 kgs. (18 cwt), as a kind of model for the Calasasaya. Of the chambered buildings mentioned in the texts only scattered stones remain, and the earth of the platforms has been so

completely disturbed by treasure-hunters that only the stone foundations of the revetments now mark out the original plans, and these are interrupted by many gaps. Ibarra, Mesa, and Gisbert believe the buildings were once revetted with cut and fitted stone; certainly the amount of fine masonry taken from the ruins to nearby towns for colonial building supports their view. Only the largest stones or the deeply-buried ones have been left at Tiahuanaco.

Three distinct methods of wall assembly point the way to a possible chronological division at Tiahuanaco. The excavations at the Calasasaya enclosure show a typical early method. Prismatic uprights of lava stand like fence-posts at intervals, with a filling or curtain-wall of smaller fitted lava elements arranged in dry courses between the uprights. This unbonded post-and-infill system resembles the very early one at Cerro Sechín (p. 237), and it continued in use at Tiahuanaco until a late period in the history of the site, in the construction of the small, nearly square edifice just east of the Calasasaya, where Bennett excavated sculpture of many periods in 1932. The masonry between the posts included carved heads in several styles. The entire enclosure may well consist of re-used elements.

A second method recalls the bonding used in Greek temples: the stones are linked by shallow matching T-shaped channels in which molten copper was poured to form H-shaped cramps. This is the earliest American use of metal for structural purposes. On some stones there are small holes for pegs or dowels, presumably to affix sheets or borders of gold. Another, more complicated method of bonding stones was by grooves, slots, and mortise-tenon cuts, allowing the units to be joined like woodwork. Puma Puncu (Figure 113) is littered with immense dressed slabs, too heavy to plunder, which may originally all have matched in a construction held together by tongues, tenons, and channels cut with extreme precision, as in Japanese wooden temple architecture.

The people who cut these stones must have possessed metal tools, probably of coldhardened copper.16 Radical differences distinguish this phase of the Tiahuanaco style from all other ancient American stone sculpture. Angular cuts, rectilinear designs, and minutely detailed ornaments are its characteristics. A rough chronology can perhaps be based upon the appearance of these shapes which required new tools. Thus the Calasasaya post-and-infill technique can be regarded as dependent upon stone tools alone, for abrasion, chipping, or flaking with stone mauls were sufficient to shape these elements. By hypothesis, a second stage of stone-tool technique is evident in the neat, box-like assemblies of blocks and flat slabs uncovered west of the Calasasaya in 1903 (Figure 114). Similar block-and-slab crypts are known at Wari near Ayacucho in the Mantaro basin (Plate 159).17 Again, nothing about these slabs and blocks requires us to suppose the use of metal tools; they could all have been shaped by abrasion alone. The transition to cuts made by metal tools appears most clearly in the elaborately compartmented stones at Puma Puncu, worked at the edges into grooves, tongues, mortises, tenons, and slots (Figure 113). On the faces there are ornamental geometric figures in many terraced planes of relief, or minutely detailed and textile-like bands of decoration, as on the standing statues and on the celebrated Sun Door (Plate 158). These ornaments recall textile designs in mathematically regular order, requiring foresight and accuracy in execution.

#### THE SOUTH HIGHLANDS

Of course these stages of stone-cutting technique did not each displace the foregoing one. We may assume only that examples of the third stage would not precede those of stages one and two. The latter probably coexisted with the more elaborate third stage late in the history of the site. Hence the hypothesis allows one only to suppose that stone cutting by metal tools came later at Tiahuanaco than stone shaped by stone tools, and that the earlier modes were not displaced by the later one. The study of the figural sculpture confirms these impressions.

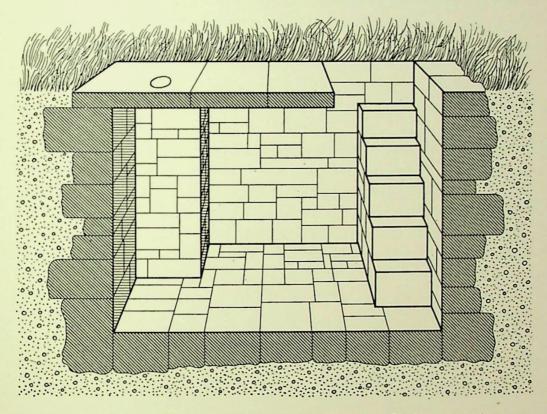


Figure 114. Tiahuanaco, underground stone chamber west of Calasasaya enclosure, first millennium

# Sculpture

Students of the ruins have long agreed, despite other differences, upon dividing the sculpture of Tiahuanaco <sup>18</sup> into two principal phases: an early style of curved surfaces, contours, and lines; and a later style of prismatic figures bounded by planes incised with small rectilinear figures based upon textile forms. No detailed chronology has been proposed. The correlation between prismatic figures and painted pottery in the 'Classic' style has not been securely proved, but it is inherently probable.

Thus the 'Early' sculpture at Tiahuanaco, which resembles the work at Pokotia, Mocachi, and Pucara (see p. 302), can be equated with the pre-Classic style. It consists of statues and reliefs carved with the thickly rounded forms that are produced by chipping

and flaking with stone mauls and axes. To this class belongs the small stela found at La Paz together with the great prism-figure that bears Bennett's name. This stela is clearly the stylistic ancestor of the colossal figure with which it was buried, perhaps in an ancient effort to preserve the arcana during a crisis in the history of the site.

Intermediate between it and the columnar Bennett Statue of the Classic period is another flat, stela-like slab of sandstone on which the elements of human form, such as the hands clasping the abdomen, are reduced to rectilinear elements of minimum expression. The ventral band bears yoked fish and eagle forms gathered into square knots; the legs are incised with fishes, the eyes are scaly square plates, and on the headband are two bearded faces in symmetrical opposition (Plate 155A). All the elements are unmistakably in the Tiahuanaco style, but their relationship and scale suggest an experimental moment of extreme clarity and unequivocal directness.

The sculpture of the 'Classic' or middle period includes the principal statues and reliefs. The statue called 'El Fraile', a colossal head at La Paz, and the curious double figures which Posnansky called 'anticephalic' reliefs (Plate 155B) seem to belong together, judging by the large scale and simple detail of the incised decoration. The eyes are protruding, plate-like carvings on both the Fraile and the colossal heads, and the mouths are like rectangular grilles. The headband reliefs of the colossal head still show the large scale and the many separate fields of the body which may be taken as characteristic of earlier rather than of late work in this period. The geometric simplification of the masses and the fine-line web of surface incisions are clues to the use of metal tools. In the double reliefs of standing and inverted figures (Plate 155B), the use of metal tools is even more evident in the deep vertical relief and the rectangular cutting. These reliefs may have served as roofing slabs. One bears thin-line incisions of various animals in the large, cloisonné convention peculiar to this group. All these figures originally carried staffs in both hands, projecting into the full-round, but they have been smashed, and only the broken background supports are visible today.

A second phase of Classic work can be identified by its morphological traits. It comprises the most celebrated pieces, the Sun Gate and the Bennett Statue. In these the scale of the incised decoration is adjusted and refined to allow a delicate intricacy, as of jeweller's work. On the Sun Gate <sup>19</sup> the reliefs thus hold the attention both from a great distance and at close quarters (Plate 158). The artistic problem has been realized and resolved: it required the establishment of forms that would command the eye by the bold masses, and at the same time by the delicate web of the incisions. In older work the incisions were too large to satisfy the closer viewer, probably because of technical obstacles in the early manipulation of copper tools. On the Bennett Statue, the main proportional divisions of the figure are stressed in shadows cast by prominent overhangs at the hat-band, the chin, the forearms, and the waist-band. This division by shadow asserts the long-distance authority of the colossal figure. The incised Sun Gate themes on the jacket and headband not only recall the textile origin of the ornament, but also satisfy the requirements of the person standing close by.

Again on stylistic grounds, it is reasonable to regard certain other figures as terminal in the sequence. Among them is the statue discovered in 1903 by Courty (Plate 156),

#### THE SOUTH HIGHLANDS

and called 'Kochamama' by Posnansky, as well as a group of stones <sup>20</sup> with relief sunk into the stone instead of projecting from it. The waist-band of the Kochamama figure is carved in this manner, allowing the ground of the design to prevail over the figure itself, in a scheme requiring exact angular cuts. The network of the incisions on the rest of the figure is dry and repetitious, as if the inventive vigour of the earlier craftsmen had frozen into set conventions. The sunk relief brings the shadows into play in an active compositional scheme, as in Egyptian reliefs of the New Kingdom. This kind of visual device does not occur at the beginning of a stylistic sequence in sculptural form; it generally appears late in the history of a style, as the conclusion to a series of investigations based upon the more obvious properties of solid form, and it is related to studies of illusion in the painter's vocabulary.

# Painting

Architectural elements were painted white, red, and green. Traces of these colours still remained on the parts excavated in 1903.<sup>21</sup> The statues and reliefs were also polychrome; the human heads used as wall decorations and found by Courty were painted with an ochreous red. A feline head found by the same excavator was painted ultramarine in the eye cavities, and red in the ears and mouth. Certain friezes and cornices, in addition, were sheathed with metal plates, presumably of gold, fastened to the stone by nails.<sup>22</sup>

Of figure painting, only the polychrome pottery survives (Plate 157, A and B). Bennett's excavations in 1932–4 yielded a stratigraphic sequence in the southern Titicaca basin comprising Early, Classic, and 'Decadent' phases, all preceded by a phase called Chiripa which distantly resembles the Caluyu phase of the Pucara style, having yellow paint on red slip, with incised outlines and coarse appliqué reliefs of modelled cat figures. The rare pieces of early Tiahuanaco pottery are painted in four and five colours on a buff clay, or on a black background. The vessel shapes include cylinders with wavy rims and puma-head spouts, long-necked bottles, bowls, and plates. On one group of spittoon-shaped vessels, the exteriors bear geometric designs, as well as representations of stylized fish and puma forms painted on the inner rims.

The Classic Tiahuanaco painted wares comprise handsome cups of concavely flaring profile, as well as libation bowls which are squat, wide versions of the cups. Both are painted in as many as five colours on a red slip with heavy black outlines surrounding the areas of local colour. The figures of pumas, human beings, and condors in profile are clearly delineated and easy to recognize. One group of burial cups found throughout the southern lake basin <sup>23</sup> is adorned with a face-design resembling the central figure of the Sun Gate at Tiahuanaco: otherwise the Classic wares do not repeat the forms used by the sculptors. In the late period, which Bennett called Decadent, new shapes appeared. The decoration was painted in black and white on an orange slip, showing parts of human, puma, and condor shapes re-combined in powerful and expressive forms of great vigour, approaching the stability of ideographic signs. The exact correlation of these ceramic types with the architectural and sculptural history of Tiahuanaco is still uncertain, but there is little doubt that the Classic and 'Decadent' ceramics were made at

about the same time as the Sun Gate and related monuments. As we shall soon see, a serious problem in chronology arises in regard to late events in the history of Tiahuanaco.

# Iconography

The style of Tiahuanaco belongs to the Andean tradition of conventional signs ordered more by semantic needs than by mimetic relationships. It conveys information about ideas rather than pictures of things, and in this it resembles the art of Chavín, although major differences separate the two styles. Chavín objects are curvilinear and asymmetrical; those of Tiahuanaco are rectilinear and balanced. Chavín carving recalls woodworking and hammered metal; Tiahuanaco art evokes textile and basketry techniques. The art of Chavín includes few motifs; the art of Tiahuanaco embraces a wide range of stylized human and animal forms.

These motifs are as rigid and schematic as if drawn by compass and ruler. The human figure, reduced to the simplest geometric components, serves as the armature for a decoration of small-scale animal appendages and inserts, including male and female condor heads, pumas, fish, snails, and perhaps others. Their parts are interchangeable, combining and re-combining in patterns probably governed by colour changes like those of Paracas textiles. The conventional meanings of these figures are unknown. Some students have unsuccessfully sought to prove ideographic writing and calendrical records. Others have supposed a pantheon of moon, sun, lake, and fish gods. One writer imagines mystic brotherhoods keeping vigil over the 'inviolable orthogonal' of the Tiahuanaco religion.<sup>24</sup> Although the conventional meanings are inaccessible, because of the total lack of texts, the intrinsic meaning is plainly evident. This society, in which the endless variety of real experience could be conveyed and summarized by a few rigid ciphers, was probably governed, like Islam, by religious prohibitions discounting the impermanent, changeable, and fugitive aspects of existence. Pure geometric order expressed the desired stability, unity, and eternity of the society better than the sensuous forms of Mochica or Nazca art. A priestly law of negation and sanctions conditioned these severe images, which suggest frugality, discipline, and ethical dynamism.<sup>25</sup>

## THE MANTARO BASIN

Although the Mantaro Valley was always a principal thoroughfare between the south Peruvian highlands and the central coast, its archaeology is much less well understood than that of other regions in Peru, partly because there are few imposing buildings or statues, and partly because the pottery was prematurely identified with the Tiahuanaco style, so that the region seemed to lack an artistic identity.<sup>26</sup>

Wari (Huari) near Ayacucho has attracted most attention. The site was densely inhabited before the Inca occupation. Fine chambers of slab-masonry like prison cells (Plate 159), and some stone statues are the only monumental remains. Many sherds of

## THE SOUTH HIGHLANDS

painted polychrome pottery were excavated by Bennett, but their quality is inferior, compared to the Conchopata sherds from Ayacucho (Plate 160),<sup>27</sup> and to the fine pottery found near Huancayo a hundred miles farther up the Mantaro river. The big vessels from the Pacheco site in the Nazca Valley (Plate 150, A and B) surpass all other Mantaro products in size and finish.

The architectural, sculptural, and ceramic remains at Wari all seem provincial in comparison with work from other Mantaro centres. The subterranean chambers of fitted slab-masonry resemble those of Tiahuanaco (Figure 114). The standing statues, of squat proportions and heavy, inexpressive features, lack both the geometric clarity and the double viewing distance of Tiahuanaco sculpture. The ceramic decorations are related to the Tiahuanaco style only by the presence of certain motifs, executed in geometric conventions recalling the stone carvings at Tiahuanaco without necessarily belonging to the same period.<sup>28</sup>

The dating of the Mantaro phase of the Tiahuanaco style opens a chronological lacuna of unusual size, because the 'Classic' phase of Tiahuanaco in Bolivia is dated about A.D. 300, but the Pacheco pieces (Plate 150, A and B) which most closely resemble the Mantaro vessels are dated after 900 (p. 298). Even with all allowances for the duration of 'Classic' and Late Tiahuanaco periods, this gap is difficult to close, since there is so little to fill it with. Possibly the Mantaro phase was a late revival of the Tiahuanaco style in Peru.<sup>29</sup> Certainly the forms of the Mantaro painters escape from the rigid rectilinearity of Tiahuanaco art: the contours are curved, the expressions are vivid, and the variety of shapes is greater than in the Bolivian style (Plate 160).

## THE VALLEY OF CUZCO

Montaigne's unforgettable phrase, 'l'espouventable magnificence de Cuzco', 30 described a city which rose to imperial power under the Inca dynasty only after 1440, less than a century before the Spanish Conquest. To be sure, primitive settlement in the valley was at least two thousand years older. The strategic and economic importance of this ancient glacial lake bed, lying at the nexus of a whole system of natural lines of communication to the Amazonian lowlands, the *altiplano*, and the main inter-Andean basins, was not exploited until the last moments of pre-Columbian history, and the importance of Cuzco endured only about three generations. Nevertheless its brief century of imperial authority produced monuments of which mankind will always remember the frightening splendour.

Chanapata, the principal pre-Inca settlement of Cuzco,<sup>31</sup> is of about the same age as Pucara, Chiripa, or Chavín de Huántar, but its material remains are far simpler than those of any of these early sites. There is no monumental architecture, no stone sculpture, and no metal. The typical pottery is polished and painted or incised in a manner distantly recalling the forms of the Chavín style. The Tiahuanaco period passed lightly over Cuzco, leaving no major remains in or near the city, although substantial traces of

Tiahuanaco pottery have been uncovered at Batan 'Urqo near Urcos <sup>32</sup> and in the neighbourhood of Lucre, 20 miles from Cuzco.

The presence of Wari-Tiahuanaco pottery at many points in this southern end of the immediate valley of Cuzco leads Rowe to suppose that the great ruined city of Pikillaqta (Plate 162) is of that date. Actually, refuse of any kind in the city is so rare that the date cannot be settled on ceramic associations <sup>33</sup> alone. The layout of the city, however, closely resembles that of Viracochapampa near Huamachuco in the northern highlands (Figure 100). The two can almost surely be ascribed, like sixteenth-century Spanish colonial towns, to the same governing class and to approximately the same period. It covers an area of 2 km by 1 km (just over a half by one and a quarter miles) with about 160 square blocks, separated by narrow streets. As at Viracochapampa, the square courts are surrounded by long, narrow gallery houses, usually without ground-level doors or windows. The walls are of irregular, sharp-edged rough stone, laid in an ample bedding of clay mortar and faced with a thick coating of clay. Access to the interiors was probably by upper-level entrances reached by ladders. Today the plan of circulation is difficult to reconstruct, because the streets and doorways have been walled off by the modern occupants to prevent the wandering of their animals.

Whether the urban knowledge and skill of the builders of the Tiahuanaco period was sufficiently developed to produce both Pikillaqta and Viracochapampa may seriously be doubted. If their placing in the Tiahuanaco period is indeed correct, then the earliest important towns in Peru are these, and they show a grid-plan <sup>34</sup> antedating the great compounds of Chanchan (Plate 138) by some generations at least. On present evidence it is more likely that they are both Inca garrison towns, possibly built during the Spanish Conquest, and never occupied long enough for great refuse deposits to form.

In 1927 forty figurines of turquoise, all carved with different costumes,<sup>35</sup> were found under the floor of one of the rooms at Pikillaqta. Other similar sets appeared at Oropesa near by, and in the Ica Valley, as well as in the vicinity of Ayacucho. The Pikillaqta find was associated with a bronze implement, which favours an Inca dating for the objects. Possibly the figurines portraying many types of regional dress helped officials to verify the origin of travellers on the Inca road. On the other hand, Rowe and Wallace found unspecified resemblances to the sculpture of Wari, which, taken together with impressions of likeness in construction,<sup>36</sup> seemed to confirm the Wari–Tiahuanaco dating. Our treating Pikillaqta here, rather than as material of clear Inca style, expresses the present uncertainty.

# Inca Architecture

Because the dynasty and the city were intimately connected,<sup>37</sup> the building history of Cuzco fixes the range and span of Inca architectural practice. There were twelve or thirteen rulers whose dates can be fixed from about 1200 until the Spanish Conquest in 1533. The original core of the city surrounded the present Dominican church on a ridge dominating the lower city, between the Huatanay and Tullumayo rivers, where the foundations of the Inca Temple of the Sun still stand (Figure 115). In the fourteenth century, during the reign of the sixth ruler, Inca Roca, this early settlement began to

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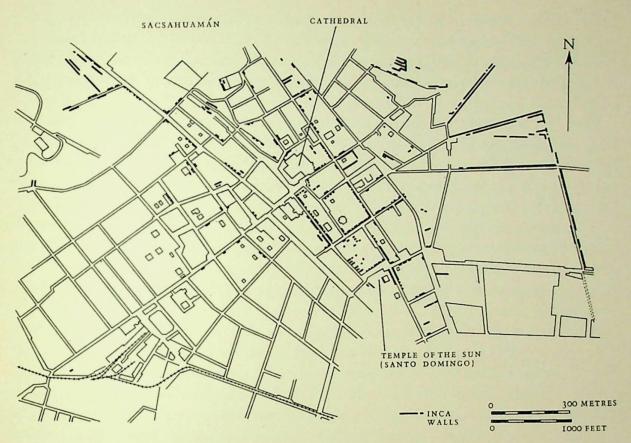


Figure 115. Cuzco. General plan c. 1951, showing Inca wall remnants

expand rapidly. Henceforth each Inca constructed his own palace instead of occupying the traditional domicile of the earlier family. The form of the city in 1533 was eventually dominated by these great walled enclosures, each consecrated to the memory of a dead Inca, and inhabited by his descendants and their families and servants.

Soon after 1400 the early raids by the Incas upon neighbouring tribes became a systematic campaign of conquests followed by administrative consolidation. Under Pachacuti, the ninth Inca, during the second third of the fifteenth century, the highland basins and valleys from Lake Titicaca to Lake Junin came under Inca control, and by 1500 the entire Andean region from Quito to lower Chile constituted the Empire. It was the largest state ever brought together under single rule in pre-Columbian America.<sup>38</sup>

During the middle years of the fifteenth century, Pachacuti enlarged the city by laying out a new centre north of the old nucleus. This region, once a swamp, was drained to accommodate a huge ceremonial square and many new courtyards, of which portions survive now as wall fragments lining the colonial streets. Pachacuti also began the fortress called Sacsahuamán (Plate 164), which dominates the northern approaches to Cuzco, and he rebuilt the Temple of the Sun (Plate 163A) at the old centre on the southern ridge.

In this courtyard group on the site of the present Dominican monastery, a few Inca walls survive in the ground-floor chambers of the east and west ranges surrounding the

main cloister.<sup>39</sup> A curved wall supports the sanctuary of the church, and it is among the most celebrated of Inca fragments, rising about 20 feet in a curved inclination like the entasis of the Doric order (Plate 163A). Its original use and designation are unknown, but the presence of a large niche on the inner face suggests that the area was once roofed over.

Thus two eminences, the fortress and the temple, rose over the city, which was an open concourse surrounded by a network of walled courtyards, divided by the highways connecting the capital to the four quarters of the empire. The city itself between the rivers was a sacred thing, and it was likened to a puma, with the tail at the confluence of the rivers, the head at the fortress, and the body at the main plaza, surrounded by courtyard dwellings. Priests, officials, nobles, and their servants lived in Cuzco supported by the labour of the farmers and artisans who existed as subjects and tributaries in many surrounding villages. Between the Augustan reforms of Pachacuti and the Spanish Conquest, barely ninety years embrace the entire history of imperial Inca architecture.

It is not now possible to distinguish between Inca buildings erected before and after Pachacuti's time in Cuzco, but it is likely that most of the earlier edifices were of sod and clay rather than of stone. The chroniclers give the names of four architects, all Inca nobles, who designed the buildings and fortifications of Sacsahuamán; Huallpa Rimachi, Maricanchi, Acahuana, and Calla Cunchui. Their work began under Pachacuti's successor, for Pachacuti only prepared the site and assembled the building materials. The main design is simple. Three terraced stone walls, laid out in zigzag angles like saw-blades, defend the northern approach to a hill whose abrupt southern rise commands the city (Plate 164). Each terrace face has about forty straight portions, angled to keep invaders under crossfire. Three narrow doorways, one for each wall, were the only points of access. Within the fortress, stone buildings housed the stores, the garrison, and the water supply.<sup>40</sup>

Much of the colonial city was later built with stones taken from Sacsahuamán, and eventually the ruins were covered with earth to prevent their use by rebel groups during the civil wars of the early colonial period. When the earthen mantle was removed in 1934, only the foundations of the buildings were left, and the eastern ends of the triple bastion were seen to have been destroyed long ago. This early colonial custom of filling in the Inca ruins with earth holds also in the city proper, where certain bits of courtyard wall of the fifteenth century now function as retaining walls for sixteenth- and seventeenth-century infill, to support the colonial platform mounds upon which the Spanish churches, convents, and town houses stand.<sup>41</sup>

The difficulty of identifying pre-Conquest walls is increased by the fact that Inca methods of building walls continued in Cuzco for a long time under colonial government. Many portions of wall commonly identified as pre-Conquest are actually of colonial date. An example is the three-storeyed façade of the Casa de los Pumas, with Inca coursing in the doorways on two levels. The colonial doorways, however, have perpendicular jambs, in contrast to the trapezoidal profiles of pre-Conquest entrances. The purpose of the Inca builders in having the jambs incline towards one another was

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obviously to shorten the span of the lintel, and to economize in the manipulation of large stones. Throughout the city, colonial and pre-Conquest walls and doorways are so mingled that it is now impossible to define the limits of the Inca city, or to tell precisely where the colonial streets and buildings begin. A few trapezoidal doorways and a few walls with niches mark the presence of Inca fragments, but their original position in the courtyard system remains uncertain.

The most important walls, such as those at Sacsahuamán and in the Temple of the Sun, display a pre-Conquest technique of shaping the individual stones which may well have continued in use until the sixteenth century. Three principal masonry types are evident: 'polygonal' walls, with large irregular stone blocks carefully fitted; rectangular blocks of stone or adobe laid in approximately regular courses; and *pirca*, or rough boulders laid in clay mortar.<sup>42</sup> The walls of Sacsahuamán belong to the first type, the walls of the Temple of the Sun are of the second type. *Pirca* served mainly for simple boundaries, and for plain housing. Polygonal masonry probably arose from the *pirca* tradition, and it was used only for retaining walls and major enclosure walls requiring massive dimensions. Rectangular block masonry, on the other hand, arose from the tradition of squarecut blocks of sod, and it was used mainly for free-standing, two-faced walls.<sup>43</sup>

Both methods of wall assembly show extreme precision in the fitting of the stones. The polygonal walls at Sacsahuamán have peculiarities which suggest the manner of attaining this precision. Many stones, especially the largest ones, retain the stubs of tenons left on the outer faces. Furthermore all stones fit upon concavely curved depressions ground into the stones immediately below them. In polygonal masonry, no stone is seated upon a level surface. Every stone is cupped by its support, although the curve of the cup may be almost imperceptible. The combination of sockets or tenons with these curved seating planes immediately suggests the manner of shaping the stones to their close fit.<sup>44</sup> After rough shaping with stone or bronze tools, each stone was ground against its bed in a swinging motion, suspended from a wooden gantry by rope slings catching the tenons. A few men could then abrade the swinging stone to a close fit with its neighbours by simple friction in a pendulum motion.

In coursed masonry like that of the Temple of the Sun (Plate 163A), the technique was less complicated but more laborious. The concave seating planes are not evident. The fit of stone upon stone was secured by push-and-pull abrasion in the flat plane, as we see in the bed between courses now exposed on top of the curved wall. The weight of the stones in both polygonal and coursed masonry diminished with increasing height. A layer of fine reddish clay was the only substance introduced between the stones. There is no trace of metal cramps like those used by the builders of Tiahuanaco. The upper walls of the Temple of the Sun were adorned with a frieze of gold plates nailed to the stone, known only from confused verbal accounts by soldiers and chroniclers.

Throughout the provinces of the Empire, Cuzco was venerated as a holy place, and knowledge of its physical form was brought to the subject peoples by means of topographic models. The museums at Lima, Cuzco, and Huaraz possess a number of stone slabs carved with a network of polygonal cells. Two of the cells are usually higher than the others, rising above the remainder of the network (Plate 163B). P. A. Means

interpreted them as counting-boards for arithmetical operations, but their resemblance to the plan of Cuzco, with the temple and the fortress rising high above the rest of the city, should not be entirely discounted. Cuzco itself is notably irregular, showing many traits of organic growth rather than planned expansion. The exact form of Cuzco, therefore, could not easily be followed in the widely divergent geographical and cultural situations of Inca military expansion. In each region, the local tradition was adapted to Inca use, and certainly the superior local features were perpetuated by the conquerors. Thus the large rectangular enclosures of Chanchan may have stimulated the Inca custom of housing each family of the ruler and each subject ruler in a separate compound.<sup>46</sup>

Ollantaytambo, in the Urubamba River Valley, is an example of late fifteenth-century Inca town-planning (Figure 116). Its history was closely connected with Cuzco, only 30 miles away as the crow flies. The fortress, built high on a mountain shoulder above the confluence of two rivers, commanded important passes. Downstream for nearly 40 miles are the terraced towns of the Vilcabamba region,<sup>47</sup> of which Machu Picchu is the most celebrated. Ollantaytambo was in all probability the provincial capital of the entire chain of Urubamba Valley frontier posts reaching towards the tropical rain-forest dwellers, whose products were important to the highlanders' economy. Below the fortress, on a wide bench of flat land, is the late fifteenth-century city of Ollantaytambo, laid out upon a grid-plan of eighteen rectangular blocks separated by rectilinear streets, and surrounding a central plaza. Every block is a double compound enclosing two unconnected courtyards which are placed back to back. Each court is surrounded by four stone-built rooms with niched interior walls. Small corner courts fill the angles between the rooms. The buildings are still inhabited, and they are probably the oldest continuously-occupied dwellings in South America.

High above the valley, as well as at the level of the Urubamba river, are many smaller settlements from Pisac to Machu Picchu, all set among very elaborate terraced platforms, sometimes, as at Inty Pata, rising many hundreds of feet. There are few novel architectural forms in the region. The sites are distinguished more for their scenic grandeur and for the bold use of complex topography. But at Runcu Raccay an interesting circular house <sup>48</sup> surrounds a round court 11 m. (36 feet) in diameter. The three long rooms are curved parts of a ring, opening by doorways upon the sheltered court. It is an annular version of the standard rectangular compound.

Machu Picchu is the most elaborate of these mountainside settlements, with many terraced ranges of gabled stone buildings marking out the southern and eastern boundaries of an oblong plaza (Plate 165). This is the only level place among the ruins, <sup>49</sup> and its quiet, ample enclosure gives needed relief from the vertiginous terraced slopes falling to the river or rising to the summits on either side. Wild strawberries and raspberries today grow upon the abandoned agricultural terraces, from which at almost any point one looks down 2000 feet into the river valley. The mild climate, with its theatrical fogs, sunsets, and milky distances, affords one of the most picturesque archaeological settings in the world. The buildings, untouched during four centuries, still give a valid and detailed impression of the character of highland Inca town existence, as an austere cycle of agricultural ceremonics and religious duties enmeshing life at every point and moment.

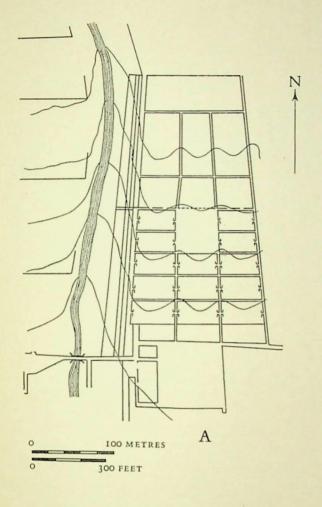
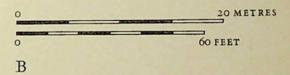
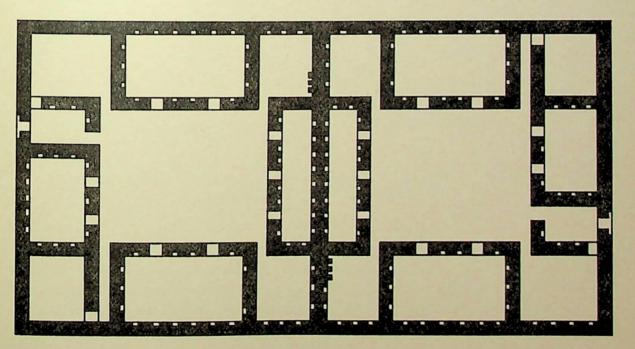


Figure 116. Ollantaytambo. (A) General plan c. 1500; (B) Detail of dwelling block





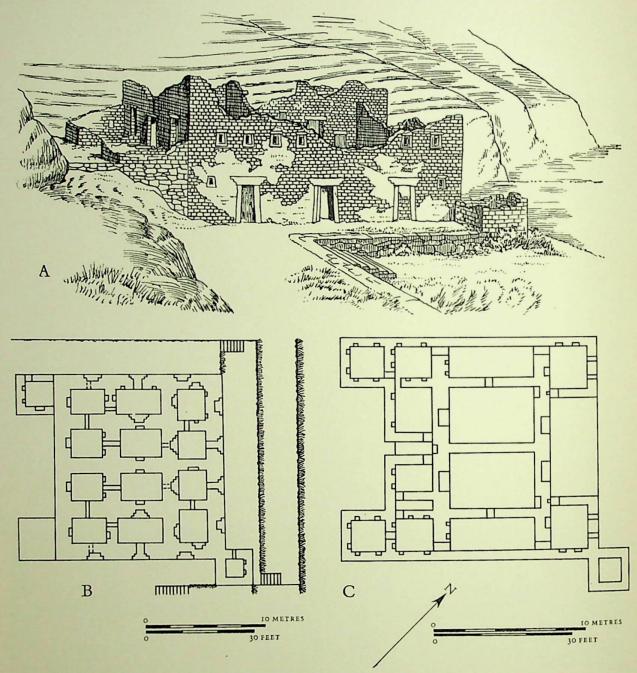


Figure 117. Titicaca Island, Palace, late fifteenth century. (A) Condition in 1870; (B) Plan of ground floor; (c) Plan of upper storey

South of Cuzco, in the *altiplano* of Lake Titicaca, Inca architecture manifests a strikingly different regional quality, although sharing with the river-valley sites the same predilection for magnificent siting and for noble prospects. Two important examples of the Inca style of the province of Collao are on neighbouring islands in Lake Titicaca, separated by about six miles of open water. <sup>50</sup> One ruin on Titicaca Island, called Pilco Kayma, was originally a two-storey dwelling block (Figure 117) overlooking the lake towards Coati Island, where a two-storeyed edifice with a court, traditionally called the 'Palace of the Virgins of the Sun' (Figure 118), faced it. Tradition also gives their

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construction to the reign of Topa Inca in the last quarter of the fifteenth century. The 'palace' is remarkable for its symmetrical envelope and the ingenious fitting of six apartments on two floors to make the best use of the site and of the prospect, with an open esplanade on the second floor overlooking the lake (Figure 117). The arrangement

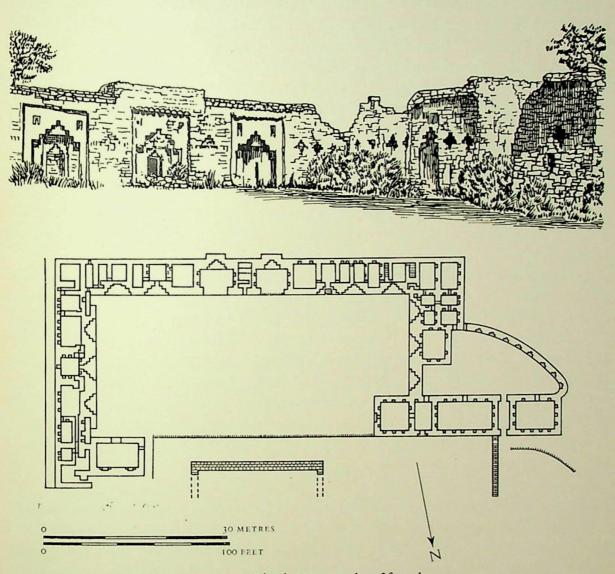


Figure 118. Coati Island, Nunnery, late fifteenth century. Elevation and plan

recalls the regular envelopes of Italian Renaissance buildings. The compulsion to symmetry is so strong that blind doorways flank the genuine entrances in each façade of the block.

The 'Nunnery' building forms a three-sided court opening north, and its elevations are enriched by many recessed planes making a geometric decoration of light and shade which recalls the stonework of Tiahuanaco (Figure 118). It belongs to an entirely different category of architectural design, as divergent from the block-like palace as Italian Renaissance block design is divergent from Islamic courtyard façades. Two quite

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distinct architectural traditions are probably present here, reflecting an Inca vernacular of trapezoidal doorways, niched walls, and terraced approaches (the 'Palace') and the persistence of a Tiahuanaco style, with chiaroscuro effects in geometric planes (the 'Nunnery').

Another celebrated ruin on the road to the Collao stands at Cacha (Figure 119) in the upper Urubamba drainage, about 120 miles south-east of Cuzco. It is traditionally called the Temple of the god Viracocha. Garcilaso de la Vega described the edifice in detail as a storeyed temple, entered from the east, with the sanctuary on an upper floor.<sup>51</sup> It was a huge building, of which Squier's plan gives the approximate size, with a central pierwall 15 m. (50 feet) high and 90 m. (300 feet) long, symmetrically flanked by columns. Both the pier-wall and the columns have masonry bases 2 m. (6 feet) high, of fitted polygonal stones, surmounted by adobe brick rising to a gabled roof over a fournaved space divided into possibly three storeys. Adjoining this vast barn-like structure were at least six small courtyards, each surrounded by gabled buildings of rectangular plan, perhaps for the lodging of pilgrims or priests. Separated from these buildings by a wall are more houses, all circular in plan, in ten parallel rows of twelve each, built of pirca masonry.<sup>52</sup>

This type of circular dwelling is common throughout the central Andes, but the date of the innumerable examples is difficult to establish. Throughout the *altiplano*, burial towers called *chullpas* reflect this tradition of domestic architecture. Some are built of carefully fitted stone like Inca coursed masonry, as at Sillustani north-west of Puno on Lake Titicaca (Plate 166); others are of square plan and small size. M. H. Tschopik, who studied the entire Collao group, believes all *chullpas* to be of Inca or immediately pre-Inca date, rather than of the Tiahuanaco period, on the basis of the ceramic associations she was able to study.<sup>53</sup>

# Sculpture and Painting

The urban impulse to commemorate important experiences by monumental sculpture was satisfied in Inca society by intricate non-figural carvings on the surfaces of caves and boulders. Such work was common throughout the southern highlands under the Inca regime.<sup>54</sup> It consists mainly of terraced seats, stepped incisions, angular or undulant channels, and, in general, of laborious modifications of the striking geological features of the landscape. They mark the presence of man without representing him in images or statues.

According to the notices gathered by colonial chroniclers, some rocks were simply sacred places (huacas) where supernatural forces resided; some were regarded as petrified remains of the ancient races of man; and others were the places where the principal events of mythology occurred. The rocky outcrops on the heights above Cuzco were especially venerated in these various ways. Certain clusters of fissured rocks, like those of the amphitheatre called Kenko (Plate 168), consist of intricate passages with elaborate exterior carvings. Kenko was probably the burial place of the Inca Pachacuti, where elaborate annual commemoration festivals occurred including the worship of the

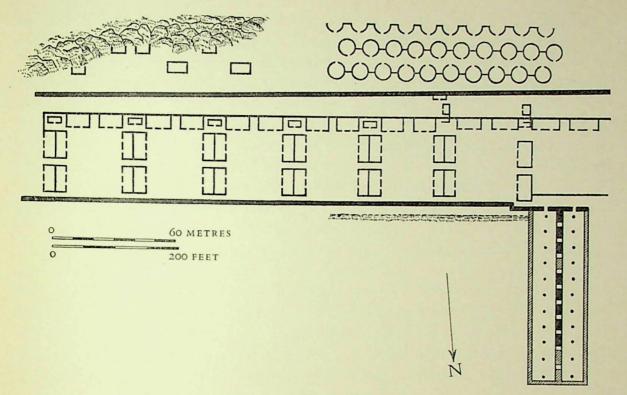


Figure 119. Cacha, Temple of Viracocha, fifteenth century. Plan

mummified remains of the monarch, displayed upon the rock, with libations of *chicha* (maize-beer).<sup>55</sup> The whole compound was probably regarded as an earth-entrance and as a gate to the underworld of the dead.

Because they were destroyed by European missionaries, large statues in the Inca style are practically non-existent, although texts of the sixteenth century mention cult figures, like the statue of Viracocha at Cacha. In 1930 a large stone head which has been thought to represent the Inca Viracocha was excavated at a depth of 8 m. (25 feet) below the pavement of the Jesuit church in Cuzco. This fragment is unique, and it may have been re-cut in the colonial period, with a timid effort to represent the features of a middle-aged man by incisions representing wrinkles.

Miniature objects of metal and stone figuring human beings and animals are extremely common. They may reflect a vanished monumental sculpture. Tiny llamas of gold, nude standing figures of men and women with ungainly bodies and stiff gestures, diminutive heads encrusted with gold and turquoise, and small terracotta models of buildings and compounds are the most intimate expressions of Inca art. A heavy gold and silver drinking vessel preserved in the Archaeological Museum of Cuzco is typical of this more intimate and luxurious side of Inca art. It is formed of welded inner and outer shells of silver. The outer wall is inlaid with golden relief figures, and the shell has a filling spout shaped as a miniature vessel perched upon the rim. When the liquid rises to the rim of the shell, it is higher than the figures standing in the shallow bowl, and one of the little men most surprisingly urinates into the miniature vessel at his feet (Plate 167A).<sup>57</sup>

#### PART THREE: THE ANDEAN CIVILIZATIONS

Conspicuously absent are the monsters and composite animals of the other styles of Andean art. Inca representations are limited to the generalized statement of normal appearances, and they are applied to instruments and objects of utilitarian character. The schematic figural designs are composed with restraint, and used economically. Detailed surfaces are avoided in favour of extreme geometric clarity of form. The representation of individuals is sacrificed to generic likenesses. For example, small stone figures of llamas are very common, carved as essential characterizations of the species, always drilled with a cylindrical depression in the back for votive offerings of fat (Plate 167B). The image is generic and it is instrumental. Many stone bowls and dishes likewise show this regard for generic form, reduced to geometric essentials in the representations of animals and plants, and subordinated to the instrumental purpose of the vessel.

Inca pottery is divided into two types: an early type called Killke, and a late type of superior quality called Cuzco polychrome. The Killke types point to connexions with the Collao by their geometric designs in black and red on buff clay, but their execution is careless. Rowe calls them Provincial Inca, assigning them to the period 1200–c. 1438. The Cuzco series is identified with the Empire from the mid fifteenth century on. The most common shapes are handled plates, and jars with pointed bases and long necks, called aryballoi (Plate 161) by inexact analogy with the Greek form. Cuzco wares are technically excellent, if stereotyped in form, with simple geometric painted decorations which seem, in Rowe's phrase, 'machine-printed' with almost mechanical poverty of invention.

Although colonial writers mention painted images of Inca deities,<sup>59</sup> no pre-Conquest examples survive. The people adored any strange or peculiar form of nature, such as multiple birth, large trees, oddly shaped fruit and vegetables, springs, rivers and lakes, mountains, rocks and peaks of all shapes, wild animals, metals, and coloured stones. It is probable that painted images were not abundant, and that an image could receive many different and inconsistent meanings, so that Inca images in general tended to undifferentiated stereotypes.

The intrinsic meaning of Inca art reinforces the general impression of an oppressive state. It is as if, with the military expansion of the empire, all expressive faculties, both individual and collective, had been depressed by utilitarian aims to lower and lower levels of achievement.

It is significant that our only exhaustive pictorial description of Inca culture was composed about 1615. Not until the pictorial resources of European civilization became available could the history, rites, and customs of the Inca peoples be thus illustrated. The book is by an itinerant mestizo of Quechua language, Felipe Guaman Poma de Ayala, 60 who used sixteenth-century European book illustrations as his models. The subject matter alone is Incaic, and this subject matter was probably never before portrayed in such detail, because of the lack of a native pictorial tradition among the Inca peoples. The painted wooden cups called *keros*, which bear figural scenes, are all likewise colonial adaptations of European pictorial methods to native subject matter. The rare pre-Conquest examples are decorated with geometric fields and conventional animal forms. 61

# LIST OF THE PRINCIPAL ABBREVIATIONS

A.A. American Anthropologist

A.C.H. W. C. Bennett and J. Bird, Andean Culture History, New York, 1949

A.I.N.A.H. Anales del Instituto Nacional de Antropología e Historia, Mexico

Am.A. American Antiquity

A.M.N.A.H.E. Anales del Museo Nacional de Arqueología, Historia y Etnografía, Mexico

A.M.N.H. American Museum of Natural History

A.M.N.H.A.P. Anthropological Papers of the American Museum of Natural History

B.A. Baessler Archiv

B.B.A.E. Bulletin of the Bureau of American Ethnology

C.A. Cuadernos Americanos

C.A.A. Contributions to American Archaeology, Carnegie Institution of Washington

C.A.A.H. Contributions to American Archaeology and History, Carnegie Institution of Washington

C.S.A.E. Columbia Studies in Archeology and Ethnology, Columbia University

F.M.N.H.A.M. Field Museum of Natural History, Anthropological Memoirs F.M.N.H.A.S. Field Museum of Natural History, Anthropological Series G.A. E. Seler, Gesammelte Abhandlungen, 5 vols, Berlin, 1902–23

G.B.A. Gazette des Beaux-Arts

H.S.A.I. Ed. J. H. Steward, Handbook of South American Indians (Bureau of American Ethnology,

Bulletin CXLIII), 6 vols, Washington, 1946-50

I.C.A. International Congress of Americanists

I.N.A.H. Instituto Nacional de Antropología e Historia

I.N.M. Indian Notes and Monographs, Museum of the American Indian, Heye Foundation, New

York

J.S.A. Journal de la Société des Américanistes de Paris

Marquina I. Marquina, Arquitectura prehispánica, Mexico, 1951

M.A.R.S. Middle American Research Studies, Tulane University, New Orleans

M.S.A.A. Memoirs of the Society for American Archaeology

Nat. Geo. Soc. National Geographic Society

N.M.A.A.E. Notes on Middle American Archaeology and Ethnology, Carnegie Institution of Washington P.M.M. Memoirs of the Peabody Museum of Archaeology and Ethnology, Harvard University

P.M.P. Papers of the Peabody Museum of American Archaeology and Ethnology
Proskouriakoff T. Proskouriakoff, A Study of Classic Maya Sculpture, Washington, 1950

R.M.E.A. Revista Mexicana de Estudios Antropológicos R.M.E.H. Revista Mexicana de Estudios Históricos

R.M.N.A.A. Revista del Museo Nacional de Antropología y Arqueología, Lima

R.M.N.L. Revista del Museo Nacional de Lima

S.M.A.M.R. Sociedad Mexicana de Antropología, Mesa Redonda

U.C.P.A.A.E. University of California, Publications in American Ethnology and Archaeology

V.F.P.A. Viking Fund, Publications in Anthropology

# NOTES TO THE INTRODUCTION

#### CHAPTER I

- p. 1 Paul Rivet, in A. Meillet and M. Cohen, Les langues du monde (Paris, 1924), 599–602, and K. Sapper, 'Die Zahl und Volksdichte der indianischen Bevölkerung in Amerika vor der Conquista und in der Gegenwart', I.C.A., XXI (1924), 95–104.
- p. 2 2. The theme is now under close investigation by members of the Institute of Andean Research.
  - 3. W. D. Strong, 'Cultural Resemblances in Nuclear America: Parallelism or Diffusion', *I.C.A.*, XXIX (1951), 271–9.
  - 4. Wendell Bennett and Junius Bird first summarized several years' work upon a simplified developmental classification of the prehistory of western South America, under the title *Andean Culture History* (New York, 1949).
- p. 6 5. K. Lehmann-Hartleben 'Thomas Jefferson, Archaeologist', American Journal of Archaeology, XLVII (1943), 161–3.
  - 6. W. F. Libby, Radiocarbon Dating (Chicago, 1951). A recent revision of the half-life of Carbon 14 from 5568 to 5760 years, at the National Bureau of Standards by W. B. Mann and W. F. Marlow, adds to the age of all previously measured specimens (New York Times 11 January 1961). The increment of age before present increases with antiquity; for specimens about 2000 years old the increment is of the order of 60 years. In the present book all Carbon 14 datings are given in the old half-life. To these the reader must add an increment which is 3.4% of the age itself. (Verbal communication from M. Stuiver, of the Yale Geochronometric Laboratory.)
- p. 8 7. The best edition is in progress by A. J. O. Anderson and C. E. Dibble, *Florentine Codex* (Santa Fé, 1950-).
  - 8. For Diego de Landa, the best edition is by A. M. Tozzer, Relación de las cosas de Yucatán, P.M.P., XVIII (1941).
  - 9. For Mexican bibliography, see R. Ricard, La 'Conquête spirituelle' du Mexique (Paris, 1933); for Maya studies, A. M. Tozzer's edition of Landa (Note 8). This is a bibliographical guide to the sources as well as a commentary and text. For the

- central Andes, the article by J. H. Rowe, 'Inca Culture at the Time of the Conquest', H.S.A.I., π, 183–330, refers to nearly all significant sources.
- 10. G. Kubler, 'The Quechua in the Colonial World', H.S.A.I., п, 331–410. For Mexico, several reports on seventeenth-century idolatry appeared in A.M.N.A.H.E., vI (1892–9).
- 11. F. J. Clavigero, Historia antigua de México (Mexico, 1945).
- 12. The most complete presentation of such p. 9 schemes is the book by Gordon Willey and Phillip Phillips, *Method and Theory in American Archaeology* (Chicago, 1958).
- 13. S. G. Morley complained that the native p. 10 chronicles of Yucatán suffered from 'a frequent telescoping of the time scale to make successive events contemporaneous' (Ancient Maya, Stanford, 1947, 87). The same tendency appears in the long defence of the Goodman-Martínez-Thompson correlation for Maya dates, by the Carnegie Institution of Washington, whose workers thereby joined an ancient tradition on Maya chronology; see p. 121.
- 14. Historia general de las cosas de Nueva España, ed. M. Acosta Saignes, п (Mexico, 1946), 276, 315.
- 15. Gregorio Garcia, Origen de los indios en el p. 11 nuevo mundo (Madrid, 1729).
- 16. Franz Kugler, Handbuch der Kunstgeschichte (Stuttgart, 1842), and J. L. Stephens, Incidents of Travel in Central America (New York, 1841).
- 17. I have shown elsewhere, 'On the Colonial Extinction of the Motifs of Precolumbian Art', Essays honoring S. K. Lothrop (in press), that utilitarian traits survive or travel more easily than symbolic systems, which are much more perishable. In this context, the diffusionists have yet to explain the translation of Asiatic symbolic forms to America, where matters of mere utility failed to 'survive'.
- 18. The most complete statement of the new diffusionist arguments is the group of essays entitled Asia and North America. Transpacific Contacts, in M.S.A.A., IX (1953). For the argument based upon motifs appearing in art, see the essay by Gordon Ekholm entitled 'A Possible Focus of Asiatic Influence in the Late Classic Cultures of Mesoamerica', ibid., 72–89. To be added to his biblio-

#### NOTES TO THE INTRODUCTION

graphy are the major works by G. Hentze, Rituels, croyances ... de la Chine antique et de l'Amérique (Antwerp, 1936); Miguel Covarrubias, The Eagle, the Jaguar and the Serpent (New York, 1934); Harold S. Gladwin, Excavations at Snaketown (Globe, 1937). The most complete diffusionist statement by a modern art historian is the essay by R. Wittkower, 'Eagle and Serpent. A Study in the Migration of Symbols', Journal of the Warburg and Courtauld Institutes, II (1938–9), 293–325. Also three articles by R. Heine-Geldern on Asiatic tigers, 'Chinese influences' on the Tajin style, and 'Chinese influences' in ancient American pottery, in I.C.A., XXXIII (1959), tomo I, San José, Costa Rica.

- p. 13 19. Op. cit. (Note 16).
  - 20. E. Viollet-le-Duc, in D. Charnay, Cités et ruines américaines (Paris, 1863).
  - 21. R. Goldwater, Primitivism in Modern Painting (New York, 1938).
- p. 14 22. Geschichte der Kunst aller Zeiten und Völker, 1 (Leipzig and Vienna, 1900–11), 81–97.
  - 23. A Study of Maya Art, P.M.M., VI (1913).
  - 24. P. Kelemen, Medieval American Art (New York, 1943 and 1956), and José Pijoan, Historia del arte precolombino (Summa Artis, x) (Barcelona, 1952), embrace the entire hemisphere. Salvador Toscano, Miguel Covarrubias, and Paul Westheim have written histories of Mesoamerican art alone.
- p. 15 25. On the role of the individual, see the recent essays by R. Trebbi del Trevigiano in *Critica d'Arte*, especially 'Premesse per una storia dell'arte precolombiana', XIX (1957), 22–31.

- 26. E. Panofsky, Studies in Iconology (London, p. 16 1939), 3.
- 27. E.g. R. E. Smith, Ceramic Sequence at Uaxactun p. 17 (New Orleans, 1955), and T. Proskouriakoff, A Study of Classic Maya Sculpture (Washington, 1950).
- 28. This assumption underlies the remarkable stylistic seriation of Nazca pottery by A. Kroeber and A. H. Gayton in *U.C.P.A.A.E.*, xxiv (1927), a seriation recently confirmed by excavations; see W. D. Strong, *M.S.A.A.*, xiii (1957).
- 29. E. von Sydow, Die Kunst der Naturvölker und der Vorzeit (Berlin, 1923), 11.
- 30. A. L. Kroeber, Anthropology (1948), 60-1, 390-1.
- 31. A. Vierkandt, 'Prinzipienfragen der ethnolo- p. 18 gischen Kunstforschung', Zeitschrift für Ethnologie, XIX (1925), 338 f.
- 32. A. L. Kroeber, Style and Civilizations (Ithaca, 1957).
- 33. B. Petermann, Gestalt Theory (London, 1932).
- 34. H. de Terra, 'Preliminary Note', Am.A., p. 19 XIII (1947), 40–4. Critique by A. D. Krieger, Am.A., xv (1950), 343–9.
- 35. It measured 13·2 by 19·3 cm. (5 by 7½ ins.). M. Barcena and A. C. del Castillo, A.M.N.M., II (1882), 439–44.
- 36. P. Kirchhoff, 'Civilizing the Chichimecs', p. 21 Latin American Studies, v (1948), 80-5.

# NOTES TO PART ONE

#### CHAPTER 2

p. 23
1. P. Armillas, 'Cronología y periodificación de la historia de la América precolombina', Journal of World History, III (1956), 463–503. The best recent clarification of pre-Classic chronology is by Román Piña Chan, Las culturas preclásicas de la Cuenca de México (Mexico, 1955), 104. His sequence, based on C14 dates, reads:

Lower pre-Classic, 1350-850 B.C. Middle pre-Classic, 850-450 B.C. Upper pre-Classic, 450-150 B.C.

- 2. R. d'Harcourt, 'Archéologie de la province d'Esmeraldas', J.S.A., XXXIV (1942-7), 61-201.
- 3. W. F. Libby, Radiocarbon Dating (Chicago, 1955), 129. C200 age 2422 (467 B.C.)  $\pm$ 250. Also R. F. Heizer and J. A. Bennyhoff, Science, CXXVII (1958), 232–3.
- p. 24 4. W. du Solier, 'Estudio arquitectónico de los edificios Huaxtecas', A.I.N.A.H., 1 (1945); G. Ekholm, 'Excavations at Tampico and Panuco in the Huasteca', A.M.N.H.A.P., xxxvIII(1944), no. 5.
  - 5. H. E. D. Pollock, Round Structures (Washington, 1936).
  - 6. G. Vaillant, A.M.N.H.A.P., XXXII (1930), 143–51. Cf. W. du Solier, La plástica arcaica (Mexico, 1950).
  - 7. P. Drucker, B.B.A.E., CXL (1943), 77-8. During Teotihuacán III (p. 34) moulds were used and hand-made figurines ceased in central Mexico (Figure 7).
  - 8. G. Vaillant, 'Early Cultures of the Valley of Mexico', A.M.N.H.A.P., xxxv (1935), 300.
  - 9. M. N. Porter, Tlatilco and the Pre-Classic Cultures of the New World (New York, 1953).
  - 10. Ancient Civilizations of Mexico and Central America (New York, 1928); G. Willey, in The Florida Indian and his Neighbors, ed. J. W. Griffin (Winter Park, 1949), 101–16.
  - 11. M. Covarrubias, 'Tlatilco', C.A., IX (1950), no. 3, 149-62.
- p. 25 12. G. Vaillant, loc. cit. (Note 8), 297-300. A recent study of Vaillant's evidence has confirmed his findings as to typology and sequence (P. Tolstoy, 'Surface Survey...', Transactions of the American Philosophical Society, XLVIII (1958), part 5, 64-5).

- 13. E. Noguera, *México antiguo*, III (1935), no. 3, 17–18. P. Drucker, *B.B.A.E.*, CXL (1943), 118, 120, has collated other coeval ceramic styles elsewhere in Mexico.
- 14. Until the rediscovery of the archaeological site of Tula in Hidalgo in 1940, many writers took Teotihuacán for Tula and designated it as the Toltec capital. The name is Aztec, and roughly 600 years removed from the real (lost) name. The names of the pyramids (Sun, Moon, and Ciudadela) are of sixteenth-century origin. Texts discussed by P. Armillas, 'Teotihuacán, Tula y los Toltecas', Runa, III (1950), 37–70. L. Sejourné, Burning Water (London, 1956), unsuccessfully attempts to return to the pre-1940 conception identifying Tula as Teotihuacán, and designating Teotihuacán as Toltec.
- 15. A. V. Kidder, J. D. Jennings, and E. M. Shook, *Kaminaljuyu* (Washington, 1946).
- 16. The basic studies are by Manuel Gamio, La población del valle de Teotihuacán, π (Mexico, 1922), and P. Armillas, Runa, π (1950). The latter established the following sequence of archaeological phases: I (pre-pyramid) Chimalhuacan, Tzacualli; Π (ritual centre) Miccaotli; Π (nearby suburbs) Xolalpan and Tlamimilolpa; IV (western transplants) Ahuitzotla-Amantla. Pre-pyramid is early (I); ritual centre and suburbs are middle (Π, Π); western transplants (IV) are late. On Teotihuacán I (pre-pyramid), see C. C. Leonard, Boletín del centro de investigaciones antropológicas de México, IV (1957), 3–9. The most recent estimates for the dating of these periods are by Paul Tolstoy, loc cit (Note 12), 60.

I: 600-200 B.C. II: 200 B.C.-A.D. 250.

III: A.D. 250-650.

IV.: A.D. 650-900.

Foundation of Tula: c. A.D. 900.

The latest contribution to the question by R. Millon, 'The Beginnings of Teotihuacán', Am.A, XXVI (1960), I-IO, puts the building of the Sun and Moon Pyramids in the first century B.C. or earlier on the strength of new finds to the north-west at nearby Oztoyahualco. A radiocarbon date for the Tzacualli finds at this site, submitted by Carmen Cook de Leonard, and measured at Yale Geochronometric Laboratory (specimen Y-644), reads

1930 ± 80 before present, confirming the position suggested here, as about the beginning of our era. I am indebted to René Millon for the information used on the insert to the map of Mexico in this volume. His recent article ('A Long Architectural Sequence at Teotihuacán', Am. A., XXVI (1961), 516-23) appeared too late for discussion here; it reports finds at Oztoyahualco 'spanning the Preclassic, Classic, and Postclassic periods'.

- p. 27 17. I. Marquina in La pirámide de Tenayuca (Mexico, 1935).
- p. 28 18. S. Linné, Archaeological Researches at Teotihuacan (Stockholm, 1934); P. Armillas, C.A., III (1944), no. 4, 121-36.
  - 19. The usual designation as the pyramid of Quetzalcoatl may be questioned, for, as Armillas has shown, the feathered serpents carved in relief upon its terraces refer to water gods and deities of plant growth in pre-Toltec symbolism; C.A., vI (1947), no. 1, 177.
  - 20. A. Caso, 'El paraiso terrenal en Teotihuacán', C.A., 1 (1942), no. 6, 127-36.
  - 21. S. G. Morley, *The Ancient Maya* (Stanford, 1947), 350, describes the wasteful process in detail. In Yucatán today, about one cord of wood is burned to produce a cubic metre of lime powder; E. Morris, in *Temple of the Warriors*, I (Washington, 1931), 225.
  - 22. P. B. Sears, 'Pollen Profiles and Culture Horizons in the Basin of Mexico', *I.C.A.*, XXIX (1951), 57-61, notes that pollen deposits suggest unfavourable moisture conditions during the Classic era. J. C. Olivé N. and Beatriz Barba A., 'Sobre la desintegración de las culturas clásicas', *A.I.N.A.H.*, IX (1957), 57-71, blame a social revolution.
- p. 29 23. On top of the south pyramid ('Quetzal-coatl') a layer of human bones beneath a layer of seashells was discovered. It suggests rites of secondary burial.
  - 24. The proof is in the rarity of burials at Teotihuacán, and in the absence of the kitchen-middens that accompany genuine habitation sites. On modern survivals of such 'concourse centres' or 'vacant towns', see S. Tax, A.A., xxix (1937); R. Linton, in The Maya and Their Neighbors (New York, 1940), 39-40; and G. McBride, Geographical Review, xxxII (1942), 252 ff. Contrast W. T. Sanders, V.F.P.A., xxIII (1956), 114-27.
  - 25. See the maps comparing Maya and Mexican sites, drawn to the same scale, in Marquina, plates 276–9.

- 26. W.T. Sanders, *loc. cit.*, 123–5, writes of 'at least p. 30 50,000 inhabitants' living in 'luxurious residential palaces aligned along a wide boulevard ... surrounded ... by ... almost continuous clusters of rooms separated by small patios and narrow, winding alleys'. For Teotihuacán proper this assumes too much, in the absence of corresponding house foundations, refuse heaps, or burials.
- 27. The three groups of four secondary platforms surrounding the main pyramid in the principal court recall the calendrical division of the Middle American cycle of fifty-two years into four parts of thirteen years each.
- 28. P. Armillas, 'Exploraciones recientes en Teotihuacán', C.A., III (1944), no. 4, 121-36.
- 29. O. Apenes, 'The "Tlateles" of Lake Tex- p. 31 coco', Am.A., IX (1943), 29-32; R. C. West and P. Armillas, 'Las Chinampas de México', C.A., v (1950), no. 2, 165-82, especially 169-70.
- 30. E.g. Kaminaljuyú (Guatemala City) and Ake (Yucatán), where it reflects Maya contact with the Valley of Mexico.
- 31. The east pyramid was inexpertly 'peeled' in 1905–10, and faced with terraces and stairways of fanciful design.
- 32. Only 11,000,000 (minimum) to 33,000,000 p. 32 (maximum) New World inhabitants are estimated as of the Discovery. A. L. Kroeber, 'Cultural and Natural Areas of Native North America', U.C.P.A.A.E., xxxvIII (1939).
- 33. Small animal effigies on wheeled platforms of clay have appeared in the Valley of Mexico, at Tres Zapotes, in Oaxaca, and perhaps Panamá, in post-Classic periods, after A.D. 1000. See the article of composite authorship (A. Caso, M. Stirling, S. K. Lothrop, J. E. S. Thompson, J. García Payón, G. Ekholm), 'Conocieron la rueda los indigenas meso-americanas?', C.A., v (1946), no. 1, 193-207.
  - 34. W. H. Holmes, B.B.A.E., LX (1919).
- 35. Fray Juan de Mendieta, writing at the end of the sixteenth century, described another colossal stone figure, too large to move, recumbent (tendido) on top of the largest pyramid (the Sun). Historia ecclesiástica indiana, ed. Icazbalceta (Mexico, 1870).
  - 36. Illustrated in Marquina, 105.
- 37. S. Toscano, Arte precolombino (Mexico, 1944), 211. W. Krickeberg, Felsplastik, 1 (1949), 199-206, assigns the 23-foot-high unfinished statue of andesite at Coatlichan to the same period.

- 38. R. García Granados, 'Reminiscencias idolátricas en monumentos coloniales', *Anales del Instituto de Investigaciones estéticas*, II (1940), no. 5, 54-6.
- 39. G. Kubler, *The Arensberg Collection* (Philadelphia, 1954), plate 84.
- p. 34 40. Aztec mummy bundles wearing similar masks are figured in a sixteenth-century pictorial history of early colonial date; *Codex Magliabecchi*, ed. Duc de Loubat (Rome, 1901).
  - 41. S. Linné, Archaeological Researches (Göteborg, 1934), 171-5. E. Seler, G.A., v, 533 and plate II, discusses two pottery braziers in which such masks were used.
- p. 35 42. The conventional designation as 'portrait type' is a misnomer. 'Stereotype' would be better.
  - 43. It covers an earlier structure discovered in 1939 by D. F. Rubín de la Borbolla, A.I.N.A.Н., п (1941–6), 61–72.
  - 44. The square plan and the width of the terraces allow the calculation that 366 such heads (including stair balustrades) adorned the platform. The number suggests calendrical symbolism bearing on the solar year.
- p. 36 45. Recent discoveries are reported by A. Villagra in A.I.N.A.H., v (1952), 67–74; vI (1955), 67–80.
  - 46. T. Proskouriakoff, 'Classic Vera Cruz Sculpture', C.A.A.H., XII (1954), no. 58. The platform is illustrated in Marquina, plate 27. E. Seler, G.A., v, 519, Abb. 170, illustrates a carved cylindrical tripod vessel from Teotihuacán with these forms.
- p. 37 47. The technique is called 'fresco' decoration because of the high key and matt finish of the pigment. The processional figures are more common on the later slab-footed tripods than on the somewhat earlier plug-footed vessels; P. Armillas, C.A., ш (1944), no. 4, 131, plates 1-п.
  - 48. C.A., I (1942), no. 6, 127-36. Aztec texts are as far removed from Teotihuacán murals as St Isidore of Seville is from the Roman mosaics of Italica.
  - 49. S. Linné, 'Teotihuacan Symbols', Ethnos, VI (1941), 174–86; H. Neys and H. v. Winning, 'The Treble Scroll', N.M.A.A.E., III (1946–8), 81–9; H. v. Winning, México antiguo, VI (1947), 333–4, VII (1944), 126–53, and N.M.A.A.E., III (1946–8), 170–7. R. L. Rands, 'Some Manifestations of Water in Mesoamerican Art', B.B.A.E., CLVII (1955), 265–393. L. Sejourné, Burning Water (London, 1956), finds hearts and other 'Nahuatl' symbols in the figural art, without proper evidence.

- 50. A. Caso, México antiguo, IV (1937), 131-43; H. Beyer, ibid., I (1921), 211.
- 51. P. Armillas, 'Los dioses de Teotihuacán', p. 38 Anales del Instituto de Etnología americana (Mendoza, Univ. de Cuyo), vI (1945).
  - 52. Proskouriakoff, 119.
- 53. E. Noguera, *C.A.*, IV (1945), no. 1, 119–57, and *R.M.E.A.*, x (1948–9), 115–19.
- 54. Contrast with W. T. Sanders, *V.F.P.A.*, p. 39 XXIII (1956), 125.
- 55. Marquina, 924, makes the sculptured platform coeval with Late Classic Maya art. The excavations have failed to give a sequence for the building history of the site. E. Noguera excavated the sweat-bath of Maya type (R.M.E.A., x (1948–9), 115–19). For other traces of Maya influence in Guerrero see El occidente de México (S.M.A.M.R., IV (1948)), especially H. Moedano, 'Oztotitlan', pp. 105–6, reporting Maya corbelled vaults of 4·5 m. (143-foot) span.
- 56. E. Noguera, C.A., IV (1945), no. 1, 119-57. Analogous ball-courts at Toluquilla and Ranas in the north-eastern part of the state of Querétaro recall the style of Xochicalco and of Tajín on the Gulf Coast. They are probably of the same pre-Toltec period as Xochicalco; Marquina, 241.
- 57. K. Ruppert, Chichen Itza (Washington, 1952), 82–3; L. Satterthwaite, Jr, Piedras Negras Archaeology: Architecture, Part v (Philadelphia, 1952).
- 58. Restored by L. Batres in 1910 to its present shape. J. O. Outwater, Am.A., XXII (1957), 261, believes the carving was done at the quarry.
- 59. Marquina compares this cornice to Maya mouldings (p. 138). Tajín cornices (p. 920) seem more closely related.
  - 60. Marquina, 138.

# p. 41

### CHAPTER 3

I. The chronicled date for the fall of Tula was p. 42 first corrected from A.D. III6 to II68 by W. Jiménez Moreno, 'Tula y los Toltecas segun las fuentes historicas', R.M.E.A., v (1940). P. Kirchhoff, 'The Mexican Calendar and the Founding of Tenochtitlan-Tlatelolco', Transactions of the New York Academy of Sciences, XII (1950), 126–32, placed the fall and abandonment at c. I260, by his revision of the sources upon the assumption that

- their great 'inconsistencies' reflect the coeval functioning of many distinct local calendars which can all be correlated. Also Kirchhoff, 'Calendarios Tenochca, Tlatelolca y otros', R.M.E.A., XIV (1954–5), 257–67.
- p. 42 2. Jorge Acosta, R.M.E.A., IV (1940), 172-94; V (1941), 239-48; VI (1942), 125-64; VII (1943-4), 1-42.
- p. 43 3. J. E. S. Thompson, The Rise and Fall of Maya Civilization (London, 1956).
  - 4. Critical bibliography in S. Toscano, Arte pre-colombino (Mexico, 1944), 57-64.
  - 5. D. Charnay, The Ancient Cities of the New World (London, 1887).
  - 6. E.g. Walter Lehmann, Aus den Pyramidenstädten in Alt-Mexiko (Berlin, 1933).
  - 7. P. Armillas, 'Fortalezas mexicanas', G.A., VII (1948), no. 5. Contrast A. Palerm, 'Notas sobre las construcciones militares y la guerra en Mesoamérica', A.I.N.A.H., VIII (1956), 123-34.
  - 8. A. Ruz Lhuillier, Guia arqueológica de Tula (Mexico, 1945).
- p. 45 9. Rémy Bastien, 'New Frescoes in the City of the Gods', Modern Mexico, xx (1948), 21, compares Atetelco and Tula.
  - 10. The west chamber, with twenty-six columns, contained stacks of neatly sorted Mazapan pottery, smashed when the roof fell in the destruction of Tula, Building 3 (A.I.N.A.H., TX (1957), figure 4) has two impluvium patios surrounded by double rows of wooden supports faced with stucco.
- p. 46 II. A. Caso, 'El mapa de Teozacualco', C.A., VIII (1949), no. 5, 145-81. The blue-and-yellow meander at Tula has a parallel among Mixtec placenames, but it is still unidentified.
  - 12. Illustrated in E. Seler, G.A., v, 433. The Tula crenellations are like the conch sections on the bodies of the feathered serpents of Xochicalco (Plate 8A).
  - 13. H. Moedano, cited by W. Krickeberg, Altmexikanische Kulturen (Berlin, 1956), 323, regards the Atlantean supports as images of the planet Venus (Tlahuizcalpantecuhtli) in the form of the hunting god named Mixcoatl, because of traces of red-and-white striped body paint on the statues.
  - 14. One is at Tula; four are in the National Museum (illustrated by S. Toscano, *Arte precolombino*, 139).

- 15. P. Armillas, 'La serpiente emplumada, Quet- p. 47 zalcoatl y Tlaloc', C.A., VI (1947), no. 1, 161-78.
- 16. C. Lizardi Ramos, 'El Chacmool mexicano', C.A., IV (1944), no. 2, 137–48, analyses the types and their significance. See also J. Corona Núñez, Tlatoani, I (1952), nos. 5–6, 57–62.
- 17. These remarkable achievements of primitive astronomical observation and calculation surely came to the Toltecs from Maya sources, where calendrical computations had reached great complexity during the Late Classic era.
- 18. H. Moedano, 'El Friso de los caciques', p. 48 A.I.N.A.H., II (1941–6), 113–36, and H. Beyer, 'La procesión de los señores', México antiguo, VIII (1955), 1–65.
- 19. In Mixtec and Aztec society, a heraldic name and a calendar name (determined by the birth day) were customary for every person of consequence.
  - 20. P. Armillas, C.A., vI (1947), no. 1, 161-78.
- 21. It must surely have been climatic changes that occasioned these cyclical movements of peoples. Soil profile studies in the Teotlalpan district show alternating periods of drought and moisture which relate clearly to the archaeological and textual evidence of the succession of cultures; S. F. Cook, 'The Historical Demography and Ecology of the Teotlalpan', *Ibero-Americana*, XXXIII (1949).
- 22. P. Kirchhoff, 'Civilizing the Chichimecs', Latin-American Studies, v (1948).
- 23. The Toltec saga as related by sixteenth-century sources often includes a first golden age of peaceful arts, which may reflect the theocracy of Teotihuacán; e.g. Die Geschichte der Königreiche von Colhuacan und Mexiko, ed. W. Lehmann (Stuttgart, 1938).
- 24. W. Krickeberg, Altmexikanische Kulturen, p. 49 308, seeks to restrict the term to the Valley of Mexico, excluding the adjoining plateaus of Toluca and Puebla. This distinction rests more upon textual sources than upon the archaeology of the period. The excavations show a uniform style of artifacts to which a name as generic as 'Chichimec' is not inappropriate.
- 25. E. Boban, Documents pour servir à l'histoire du p. 50 Mexique, 2 vols. and atlas (Paris, 1891), I, 134, 147; C. Dibble, Códice Xolotl (Mexico, 1951). The study of these manuscripts as examples of painting belongs to a later section, as they are examples of Aztec pictorial conventions, although of post-Conquest date.

- 26. P. Radin, 'The Sources and Authenticity of the History of the Ancient Mexicans', U.C.P.A.A.E., XVII (1920), 1–150.
- 27. F. de A. Ixtlilxochitl, *Obras históricas*, ed. Chavero (Mexico, 1891–2).
- 28. The Tepanecs were probably related to the Matlatzinca tribe of the valley of Toluca. Tezozomoc, *Crónica mexicana* (Mexico, 1878).
- 29. E. J. Palacios and others, *Tenayuca* (Mexico, 1935).
- p. 51 30. J. García Payón, Zona arqueológica de Tecaxic-Calixtlahuaca (Mexico, 1936); H. E. D. Pollock, Round Structures, Washington, 1936.
  - 31. A tribal fetish of solar nature, meaning 'Humming-bird of the left' (i.e. south), consulted as an oracle and given the cult of a war god.
  - 32. P. Kirchhoff revised the traditional date of the founding (c. 1325) to c. 1370 on the basis of calendar studies correlating the numerous municipal systems of recording dates; *Transactions of the New York Academy of Sciences*, XII (1950).
  - 33. The genealogical line is fully reported in Códice Xolotl, ed. C. Dibble.
  - 34. R. H. Barlow, 'The Extent of the Empire of the Culhua Mexica', *Ibero-Americana*, XXVIII (1949), based upon the tribute lists of the Codex Mendoza, a sixteenth-century compilation by Indian informants, ordered for Viceroy Mendoza as a guide for Spanish colonial taxation in the same area (*Codex Mendoza*, ed. and transl. J. C. Clark, 3 vols., London, 1938).
  - 35. B. de Sahagún, Historia general, is the most complete source; preferred edition: Florentine Codex, transl. A. J. O. Anderson and C. E. Dibble (Santa Fé, 1950-). Excision of the heart (Toltec origin), flaying (south Mexico), and gladiatorial combat and arrow sacrifice (east coast) were the commonest forms of immolation. For a survey of the annual calendrical sacrifices, see G. Kubler and C. Gibson, The Tovar Calendar (New Haven, 1951).
- p. 52 36. A. Caso, The Aztecs (Norman, 1958), 12-13.
  - 37. G. Kubler, 'The Cycle of Life and Death in Metropolitan Aztec Sculpture', G.B.A., XXIII (1943), 257–68.
    - 38. L. Schultze, *Indiana*, II (Jena, 1933-8).
  - 39. M. Toussaint, J. Fernández, E. O'Gorman, Planos de la ciudad de Mexico (Mexico, 1938); I. Alcocer, Apuntes sobre la antigua México-Tenochtitlán (Mexico, 1935); Hernando Cortés, Letters,

- cd. F. A. MacNutt (New York, 1908); B. Díaz del Castillo, *True History*, ed. A. P. Maudslay (London, 1908–16); B. de Sahagún, *Historia*, Book XII; Diego Durán, *Historia* (Mexico, 1867–80).
- 40. J. W. Schottelius, *Ibero-amerikanisches Archiv*, VIII (1934).
- 41. 'Tlatelolco a través de los tiempos', Memorias de la Academia de Historia, III-IV (1944-8).
- 42. D. Robertson has shown that the basic paper drawing, apart from the pasted-over colonial additions, may well be of pre-Conquest manufacture, and that its grid corresponds to a suburban fringe of new growth along the western fringe of Tenochtitlan; Mexican Manuscript Painting of the Early Colonial Period (New Haven, 1959). Contrast Toussaint, Fernández, and O'Gorman, Planos. D. Stanislawski, 'Origin and Spread of the Grid-Pattern Town', Geographical Review, XXXVI (1946), 105, and XXXVII (1947), 97, denies the existence of grid plans in pre-Conquest town planning.
- 43. T. de Benavente Motolinia, Historia de los p. 53 Indios de la Nueva España (Barcelona, 1914); English translation by F. B. Steck, O.F.M., entitled Motolinia's History of the Indians of New Spain (Washington, 1951).
- 44. Marquina, 220. Teopanzolco has been p. 54 trenched to reveal the outlines of an older interior platform.
- 45. E. Seler, G.A., 111, 487–513. The alleged p. 55 month-glyphs on the cella bench are discussed by Kubler and Gibson, *Tovar Calendar*, 62–3.
- 46. J. Garcia Payón, R.M.E.A., VIII (1946). The rock is a volcanic ash containing clay, which is soft when wet; hard when dry. J. O. Outwater, 'Precolumbian Stonecutting Techniques of the Mexican Plateau', Am.A., XXII (1957), 258.
- 47. W. Krickeberg, 'Das mittelamerikanische Ballspiel und seine religiöse Symbolik', *Paideuma*, III (1948).
- 48. G. C. Vaillant, *The Aztecs of Mexico* (New York, 1941, and Harmondsworth, 1950).
- 49. J. Garcia Payón, La zona arqueológica de Tecaxic-Calixtlahuaca (Mexico, 1936).
- 50. Tizatlán: E. Noguera, R.M.E.H., II (1928); p. 56 Comalcalco: F. Blom and C. Lafarge, *Tribes and Temples*, I (New Orleans, 1926); 113; Corozal: T. Gann, B.B.A.E., LXVI (1918), 82; Zacualpa: R. Wauchope, *Excavations at Zacualpa* (New Orleans, 1948), 66–7.

- p. 56 51. W. Jiménez Moreno, 'El enigma de los Olmecas', C.A., v (1942). To the Aztecs, the Olmecs were a real and redoubtable tribal entity, whose territory yielded important revenues.
  - 52. Discussed by H. Moedano, 'El friso de los caciques', A.I.N.A.H., II (1947).
- p. 53. On kingship, see Manuel M. Moreno, La organización política y social de los Aztecas (Mexico, 1931).
  - 54. A cast gold figure of Tizoc is discussed by M. Saville, *The Goldsmith's Art in Ancient Mexico* (New York, 1920).
  - 55. The frontal portraits of the dynastic rulers of Tenochtitlan, garbed as Xipe Totec and carved upon the rock face of Chapultepec, are mutilated beyond recognition.
  - 56. H. Beyer, El llamado 'calendario Azteca' (Mexico, 1921).
  - 57. A. Caso, El Teocalli de la guerra sagrada (Mexico, 1927).
- р. 58 58. E. Seler, G.A., п, 704-16.
  - 59. M. Saville, The Woodcarver's Art in Ancient Mexico (New York, 1925). Also E. Noguera, Tallas prehispánicas en madera (Mexico, 1958). The copper knives occasionally found in Mexico lacked the hardness and temper for stonework and wood carving. Bronze cutting-implements were common only in the Andean region. P. Rivet, La métallurgie en Amérique précolombienne (Paris, 1946); M. Saville, 'Votive Axes from Ancient Mexico', I.N.M., VI (1929).
  - 60. G. Kubler and C. Gibson, The Tovar Calendar (New Haven, 1951).
  - 61. Illustrated by the discoverer, G. Vaillant, in Aztecs of Mexico. Another example of the same hollow fired clay image has been found in Costa Rica. A Zapotec Xipe figure is illustrated by A. Caso and I. Bernal, Urnas de Oaxaca (Mexico, 1951), figure 396.
- p. 59 62. J. E. S. Thompson, 'The Moon Goddess in Middle America', C.A.A.H., v (1939), 121-73; W. Krickeberg, Altmexikanische Kulturen (Berlin, 1956), 181-216. Many forms of the earth goddess as death goddess are pictured in Codex Magliabecchi, facs. ed. Duc de Loubat (Rome, 1901). The National Museum in Mexico has several statuary versions of the same skull-headed female, in a kneeling posture with upraised hands (reproduced in J. Pijoan, Summa Artis, x (1952), figures 216, 217).

- 63. M. Acosta Saignes, Los Pochteca (Acta Anthropologica, I) (Mexico, 1945). This work analyses the history of the clan monopolizing the foreign trade activities of the Aztec state. It functioned as a priestly corporation, under the aegis of a god, Yacatecutli, with special rites and privileges. Its members enjoyed the status of hereditary nobles and warriors. They were both instruments and strategists of Aztec economic and political expansion.
- 64. The literature of the Coatlicue figure, written since its discovery in 1790, is the subject of the illuminating book by Justino Fernández, *Coatlicue* (Mexico, 1954). The Yolotlicue figure was discovered in the foundations dug for the Supreme Court building. Both are 2.52 m. (8½ feet) high. The surfaces of the Yolotlicue figure are damaged.
- 65. S. K. Lothrop, *Pre-Columbian Art* (Bliss Col- p. 60 lection) (New York, 1957), 240–1. The material is wernerite.
- 66. H. B. Nicholson, 'The Birth of the Smoking Mirror', *Archaeology*, VII (1954), 164-70, has gathered other representations of birth scenes.
- 67. S. Ball, 'The Mining of Gems and Ornamental Stones by American Indians', B.B.A.E., CXXVIII (1941), 20, 27, 28.
- 68. E. Seler, Einige Kapitel aus dem Geschichtswerk des Fray Bernardino de Sahagun (Stuttgart, 1927), 376-7.
- 69. Illustrated in Ancient American Art (Cambridge, Mass., 1940).
- 70. M. Saville, 'The Goldsmith's Art in Ancient p. 61 America', I.N.M., (1920); D. T. Easby, jr, 'Sahagún y los orfebres precolombinos de México', A.I.N.A.H., IX (1957), 85-117.
- 71. The 'Plano en papel de maguey' (see Note 42) is an administrative map rather than a work of art.
- 72. Donald Robertson, Mexican Manuscript Painting (New Haven, 1959), analyses these documents in the light of the replacement of native conventions by European ones.
- 73. I. J. Gelb, A Study of Writing (London, 1952), 51–9, characterizes 'Aztec and Maya' signs as 'limited systems' to be counted among the fore-runners of writing, and not as full writing. They are semasiography rather than phonography; based upon pictures, and not upon syllabic signs representing language instead of nature.
- 74. W. v. Hoerschelmann, 'Flächendarstellungen in altmexikanischen Bilderschriften', Festschrift Eduard Seler (Stuttgart, 1922), 187–204.

- p. 62 75. Tlaxcala, though regarding Tenochtitlan as the hereditary enemy, belonged to the Aztec culture, much as Sparta belonged to Greek civilization.
  - 76. Marquina, 212.
  - 77. E. Noguera, 'Los altares de sacrificio de Tizatlán', *Publicaciones de la Secretaria de Educación Pública*, xv (1927), no. 11, 23–62. Fired bricks, extremely rare in Mexico, were used in the stairs, the bench, and the altar-tables. The bricks measure 56 by 30 by 6 cm. (22 by 12 by 2½ ins.). See also A. Caso, *R.M.E.H.*, I (1927).
- p. 63 78. Its colonial date is indicated by the deep pictorial space of certain month festivals, particularly in the scene showing dancers winding around a pole; Codex Borbonicus, facs. ed. E.-T. Hamy (Paris, 1899).
  - 79. C. E. Dibble, Códice en Cruz (Mexico, 1942).
  - 80. Codex Telleriano-Remensis, facs. ed. E.-T. Hamy (Paris, 1899).
  - 81. Codex Mendoza, ed. and transl. J. C. Clark, 3 vols (London, 1938).
  - 82. E.g. Codex Magliabecchiano, facs. ed. Duc de Loubat (Rome, 1904), illustrates many Aztec textile patterns in sixteenth-century drawings prepared on European paper.
  - 83. E. Seler, Einige Kapitel aus dem Geschichtswerk des Fray Bernardino de Sahagún (Stuttgart, 1927), 378 f., and M. Acosta Saignes, Los Pochteca. Also E. Seler, G.A., II, 641–63.
  - 84. F. Heger, Annalen des K. K. Hofmuseums, VII (1892), and F. v. Hochstetter, Über mexikanische Reliquien aus der Zeit Montezumas in der K. K. Ambraser Sammlung (Vienna, 1884).
  - 85. A. Brenner, 'The Influence of Technique on the Decorative Style in the Domestic Pottery of Culhuacan', Columbia University Contributions to Anthropology, XIII (1931).

#### CHAPTER 4

- p. 64 I. M. Swadesh, 'The Language of the Archaeologic Huastecs', N.M.A.A.E., IV (1949–53), no. 114, 223–7.
  - 2. W. Jiménez Moreno, 'El enigma de los Olmecas', C.A., v (1942), 113-45. Radiocarbon dates, fixing La Venta between c. 800 and 400 B.C., in Science, CIV, no. 3211 (12 July 1956).
  - 3. Tres Zapotes: P. Drucker, B.B.A.E., CXL (1943); La Venta: P. Drucker, B.B.A.E., CLIII

- (1952), and P. Drucker, R. F. Heizer, and R. J. Squier, B.B.A.E., CLXX (1959); San Lorenzo: M. Stirling, B.B.A.E., CLVII (1955); general: M. Covarrubias, Mexico South (New York, 1946).
- 4. M. N. Porter, *Tlatilco* (New York, 1953), plate p. 66 6G, H. This site of pre-Classic (Middle Zacatenco) date received Olmec influence from some unidentified centre.
- 5. M. Stirling, An Initial Series from Tres Zapotes (Washington, 1940). Contrast J. E. S. Thompson, Dating of Certain Inscriptions of Non-Maya Origin (Washington, 1941). The most recent confirmation of Stirling's position is by M. D. Coe, 'Cycle 7 Monuments in Middle America: A Reconsideration', A.A., LIX (1957), 597-611.
- 6. Enumerated by M. Covarrubias, *Mexico South*, 50–83.
- 7. E. Shook and A. V. Kidder, Nebaj (Washington, 1951), 32-43.
  - 8. P. Drucker, B.B.A.E., CLIII (1952), plate 56.
- 9. M. Covarrubias, 'Tipología de la industria de piedra tallada y pulida de la cuenca del Río Mezcala', El occidente de México (Mexico, 1948), 86–90, first suggested that the Guerrero style was older than that of La Venta.
- 10. The jade 'canoe' from Cerro de las Mesas, with jaguar-masks engraved at both ends, seems to represent such an art; P. Drucker, B.B.A.E., CLVII (1955), 47–9.
- 11. M. Stirling, B.B.A.E., CXXXVIII (1943); p. 67 CLVII (1955), 8-13, gives their heights:

Tres Zapotes 5' 11" San Lorenzo 1 9' 4"

La Venta 1 (South) 8' 1" San Lorenzo 2 8' 10" La Venta 2 (North) 6' 3" San Lorenzo 3 not

La Venta 3 (North-San Lorenzo 4 5' 4"

east) 6'
La Venta 4 (North- San Lorenzo 5 6' 4"
west) 8' 5"

12. This rests only upon analogy with similar changes elsewhere, as in Greek pediment sculpture of c. 550-450 B.C., or early Gothic portal figures in northern France of c. 1140-1250. The recent estimate based on radiocarbon, giving the end of occupancy at La Venta as of c. 400 B.C., does not accord with the sculptural evidence. The parallels with Maya sculpture require a terminal date c. A.D. 300 for La Venta carvings. Contrast P. Drucker, R. F. Heizer, and R. J. Squier, 'Excavations at La Venta, 1955', B.B.A.E., CLXX (1959). Also R. F. Heizer, 'Agriculture and the Theocratic State in Lowland

- Southeastern Mexico', Am.A., XXVI (1960), 215-22.
- p. 68 13. Proskouriakoff, figure 7 and p. 19.
  - 14. Proskouriakoff, 28-9.
  - 15. R. Piña Chan, Chalcatzingo, Morelos (Informes I.N.A.H., no. 4) (Mexico, 1955), reports similar reliefs from the central Mexican plateau, dating them 600-400 B.C.
  - 16. M. Stirling, B.B.A.E., CXXXIX (1943), plates 17–18 and pp. 18–21.
  - 17. B.B.A.E., CLIII (1952), 133. The formative stages of this technique have not been discovered.
- p. 69 18. Illustrated in B.B.A.E., CLIII (1952), plates 31-6; CXXXIX (1943), plates 32-6.
  - 19. This composition existed in monumental basalt sculpture at La Venta; see B.B.A.E., CLIII (1952), plate 59 (Monument 8).
  - 20. Such a 'replica' of a La Venta jade is the seated figurine of Tlatilco, discussed by M. N. Porter, *Tlatilco*, plate 4B and p. 23. Many helmeted figurines of clay can be seen among the purchase specimens illustrated by Weiant in B.B.A.E., CXXXIX (1943). R. Piña Chan, *Culturas preclásicas* (Mexico, 1956), 14, has suggested an analogous division by 'rural' (Valley of Mexico) and 'semiurban' (Gulf Coast) groups.
- p. 70 21. M. Covarrubias, 'El arte "Olmeca" o de la Venta', C.A., v (1946), no. 4, 153-79, and The Eagle, the Jaguar and the Serpent (New York, 1957).
  - 22. M. Covarrubias, Mexico South, 77-8.
  - 23. J. E. S. Thompson, Dating of Certain Inscriptions of Non-Maya Origin (Washington, 1941); E. W. Andrews, C.A.A.H., VIII (1943), 85-7.
- p. 71 24. M. N. Porter, *Tlatilco*, 71–9, enumerates the similarities between Olmec and Chavín styles.
  - 25. W. Krickeberg, 'Die Totonaken', B.A., vII (1918–22), 1–55; IX (1925), 1–75.
  - 26. See the comparisons drawn to uniform scale in Marquina, láms. 276–82.
  - 27. G. W. Brainerd, 'Fine Orange Pottery in Yucatan', R.M.E.A., v (1941), 163-83. X-Fine Orange and plumbate wares occur at sites of Toltec date. See also H. Berlin, C.A.A.H., no. 59 (1956), 148.
  - 28. W. Du Solier observes that the ceramic production of Tajín owes much to Huastec influences; 'La cerámica arqueológica de El Tajín', A.M.N.A.H.E., 5 ep., III (1936-8), A.I.N.A.H., I (1945), 147-91.
- p. 72 29. Marquina, 430.

- 30. J. García Payón, Exploraciones en el Tajín (In- p. 75 formes I.N.A.H., no. 2) (Mexico, 1955); also A.I.N.A.H., v (1952), 75-8.
  - 31. Marquina, 450-2.
- 32. F. del Paso y Troncoso and J. Galindo y Villa, 'Las ruinas de Cempoala y del templo del Tajín', A.M.N.A.H.E., III (1912), apen. xcv-clxi.
- 33. H. Strebel, *Alt-Mexiko*, 2 vols (Hamburg-Leipzig, 1885–9).
- 34. M. Stirling, B.B.A.E., CXXXVIII (1943), 31- p. 76
  48. The earth platforms of the site were covered with stucco painted red.
  - 35. Proskouriakoff, 174-5.
- 36. Compare Stela II, Monte Alban; A. Caso, Estelas zapotecas (Mexico, 1928).
- 37. T. Proskouriakoff, 'Varieties of Classic Central Veracruz Sculpture', C.A.A.H., no. 58 (1954), 63–94.
- 38. Tres Zapotes (Weiant, B.B.A.E., CXXXIX (1943), plate 7) and Cerro de las Mesas (Drucker, B.B.A.E., CXLI (1943), plate 58): yoke and hacha with Lower II (Late Classic) associations.
  - 39. Illustrated in Proskouriakoff, figure 9g.
- 40. J. García Payón, A.I.N.A.H., II (1947), 73- р. 77
- 41. G. Ekholm, A.A., XLVIII (1946), 593–606, and Am.A., XV (1949), 1–9.
- 42. C. W. Weiant, B.B.A.E., CXLI (1943), piate 58.
- 43. E. J. Palacios, Los yugos y su simbolismo p. 78 (Mexico, 1943), illustrates many yokes which are not relevant to the analysis by T. Proskouriakoff.
- 44. A stela found at Aparicio in Veracruz shows the elongated *palma* in place upon a player; J. García Payón, R.M.E.A., x (1948–9), 121–4. The relief may be compared to the figure with seven snakes entwined at the head shown at Chichén Itza in the ball-court reliefs (Figure 66).
- 45. All the reliefs of the main court are illustrated by Marquina, fots. 292–5. The lesser ball-court reliefs, showing an eagle and a throne scene, are reproduced by E. Spinden, A.A., XLVIII (1933), plate 16.
- 46. The cacao tree relief (Marquina, 449) belongs to this heavily outlined style of patterned background.
- 47. E.g. Type IX figurines, Cerro de las Mesas p. 79 (Drucker, B.B.A.E., CXLI (1943), plate 43).
- 48. H. Strebel, op. cit. The important pre-Classic finds at Remojadas in central Veracruz are still un-

published. See A. Medellín Zenil, Exploraciones en la Isla de Sacrificios (Jalapa, 1955); also A. Medellín Zenil and F. A. Peterson, 'A Smiling Head Complex from Central Veracruz, Mexico', Am.A., xx (1954), no. 2, 162–9.

- 49. P. Drucker, B.B.A.E., CXLI (1943), 86.
- p. 80 50. V. Rosado Ojeda, 'Las mascaras rientes totonacas', R.M.E.A., v (1941), 53–63. Moulded figurines of Cuicuilco-Ticoman date are reported from Remojadas; F. A. Peterson, Tlatoani, I (1952), 63–7. The distinction drawn here between Ranchito and Mistequilla figurines is stratigraphically confirmed at the Cerros site near Tierra Blanca in Veracruz, where a heap of rejects was found. Medellín and Peterson, op. cit., 166.
  - 51. G. Ekholm, A.M.N.H.A.P., XXXVIII (1944), 499, notes that burnt clay floors can be identified as of the Pánuco period II (pre-Classic) in the Huasteca. El Ebano is discussed by Marquina, 407.
  - 52. W.Du Solier, 'Primer fresco mural huasteca', C.A., v (1946), no. 6, 151-9.
  - 53. H. E. D. Pollock, Round Structures (Washington, 1936).
- p. 81 54. H. Beyer, 'Shell Ornament Sets', M.A.R.S., 5 (1934), 153–215.
  - 55. C. Seler-Sachs, Auf alten Wegen in Mexiko und Guatemala (Berlin, 1900).
    - 56. E. Seler, G.A., III, 514-21.
  - 57. H. Spinden, 'Huastec Sculptures and the Cult of the Apotheosis', *Brooklyn Museum Quarterly*, XXIV (1937), 179–88.

### CHAPTER 5

- p. 82
  1. A. Caso, Exploraciones en Oaxaca ... 1934–35
  (Mexico, 1935); idem, 1936–37 (Instituto panamericano de geografía e historia, Pubs. 17 and 34)
  (Mexico, 1938). I. Bernal, Exploraciones en Cuilapan (Mexico, 1958), 66, supposes that Monte Alban was already in disuse during IIIb, when Cuilapan, at the south foot of Monte Alban, was flourishing.
  - 2. A. Caso, 'El mapa de Teozacualco', C.A., VIII (1949), no. 5, 145–81.
  - 3. The supposition that Mitla is Mixtec has been strengthened by the discovery of Yagul, a site near Mitla, much like Mitla, and clearly Mixtec by ceramic evidence; *Mesoamerican Notes*, IV (1955), and V (1957). See P. Dark, *Boletín de Estudios Oaxaqueños*, no. 10 (1958), with supplementary note by John Paddock.

- 4. The south platform includes re-used materials p. 83 of Monte Alban I and II (Caso, *Exploraciones* (1938), 5-7).
- 5. Mound J in the south central portion of the plaza belongs by ceramic and sculptural evidence to Monte Alban II (Caso, *Exploraciones* (1938), 11, 62). The peaked vault of slabs leaning upon one another also characterizes the underground tombs of Period II
- 6. Caso, Exploraciones (1935), 13–15; Marquina, p. 85 lám. 93 and figure 143. Another two-chambered cella with columns in antis is the temple on Mound H, at the centre of the main plaza. Columnar plans characterize the buildings of Monte Negro in the Mixteca, ascribed to the period of Monte Alban I (plan in Marquina, lám. 104).
- 7. A fragment of another such model is illustrated in Caso, Exploraciones (1938), figure 56.
- 8. If the temple is the dramatic centre of the space, p. 86 it is permissible to speak of its stairway and terraces as the proscenium to stress the ritual unity of the temple and its staired approach.
- 9. General discussion in A. Caso, Las estelas zapo- p. 87 tecas (Mexico, 1928).
- 10. A. Villagra, 'Los Danzantes', *I.C.A.*, ххvII (1939), II, 143–58.
- 11. Cf. A. Caso, Calendarios y escrituras de las anti- p. 88 guas culturas de Monte Albán (Mexico, 1947).
- 12. Reproduced in Caso, Exploraciones (1938), 18 (Lápida de Bazán).
- 13. A. Caso and I. Bernal, Urnas de Oaxaca p. 89 (Mexico, 1952); S. Linné, Zapotecan Antiquities (Stockholm, 1938); J. A. Mason, Museum Journal, XX, no. 2 (1929); C. G. Rickards, J.S.A., X (1913), 47–57.
- 14. E.g. the 'rain-god (Cocijo) complex', a 'maize-god complex', and calendrical deities such as 'Five Flower', 'Thirteen Death', or 'Two Tiger'.
- 15. Nowhere in published studies can one find adequate proof of this sequence. The 'Transition' and Periods IV-V are based upon typological series, like the alleged differences between IIIa and IIIb styles. See Marquina, 356-61.
- 16. Tomb 104 being of Period IIIa and Tomb 105 p. 90 of IIIb?
- 17. A. Caso, Exploraciones (1938), 47 f.: B. Dahlgren de Jordan, La Mixteca (Mexico, 1954), 341. Monte Negro is of Monte Alban I date; Tomb I at Yucuñudahui is of Monte Alban III date.

- p. 90 18. A. Caso, Exploraciones (1932), 32, identifies the Tomb 7 burial as Mixtec of the fifteenth or early sixteenth century, by parallels with Aztec works of art.
- p. 91 19. A. Caso, Exploraciones en Mitla, 1934–35 (Mexico, 1936); John Paddock, 'Excavations at Yagul', Mesoamerican Notes, IV (1955), 80–90; 'Relación de Tlacolula y Mitla', Papeles de la Nueva España, ed. F. del Paso y Troncoso, IV (Madrid, 1905), 144–54; English version in Mesoamerican Notes, IV (1955), 13–24.
- p. 93 20. M. Saville, 'The Cruciform Structures of Mitla and Vicinity', *Putnam Anniversary Volume* (New York, 1909), 151–90.
  - 21. A. Caso and D. F. Rubín de la Borbolla, Exploraciones en Mitla (1936), 11-12.
  - 22. Mesoamerican Notes, IV (1955), and V (1957). Reviewed by H. B. Nicholson, Am.A., XXIII (1957), 195, warning against the equation of style and ethnic group.
- p. 95 23. G. B. Gordon, 'Prehistoric Ruins of Copán', P.M.M., 1 (1896); G. Strómsvik, 'Substela Caches and Stela Foundations at Copán and Quiriguá', C.A.A.H., VII (1942), 63–96.
- p. 97 24. J. P. Oliver has grouped the mosaics by rectilinear and curved elements in archaic, classic, and baroque phases, separated by transitions (Mesoamerican Notes, IV (1955), 57–62). He proposes curved forms as posterior to rectilinear ones. Oliver's types are based upon the listing by N. León, Lyobaa à Mictlan (Mexico, 1901), without much re-grouping. If we eliminate obvious repetitions and duplications, the repertory can be simplified as follows (see Figure 25):

#### Oliver-Teón

Oliver-Leon		
I-2	tilted Skey-fret	I
3-6	stepped key-fret (xicalcoliuhqui)	II
7-9, 14	key rinceau	Ш
10	serrated key	IV
11-12	diamond pattern	V
13, 16, 1	7, 18, 21, 22 spiral fret	VI
	spiral meander	VIa
15, 19	key meander	VII
	key and diamond	VIII
Key forms are rectilinear; spirals are curved.		

- 25. A. Caso, 'El mapa de Teozacualco', C.A., vIII (1949), no. 5, 145–81. Only the place-glyphs for Tilantongo and Teozacualco are known with certainty. About sixty place-names appear in Codex Bodley; seventy-five in Codex Selden.
- 26. The Dominican chronicler Fray Francisco de Burgoa (Geografica descripcion ..., Mexico, 1674) re-

- garded Mitla as a pagan Vatican: the pontiff resided in the Group of the Columns. Burgoa, a native of Oaxaca, recorded colonial folklore rather than pre-Conquest tradition.
- 27. Seven of these reliefs are illustrated by A. p. 98 Caso, *Estelas Zapotecas* (Mexico, 1928), figures 80, 81, 82, 83, 84, 93, 94.
- 28. E. Seler, 'The Wall Paintings of Mitla', B.B.A.E., xxvIII (1904), 243-324.
- 29. W. Lehmann, 'Les peintures Mixteco-Zapo- p. 100 tèques', J.S.A., II (1905), 241-80. The Zapotec, Cuicatec, Mazatec, Chinantec, Mije, and Popoloca variants are not fundamentally distinct.
- 30. The term 'codex' signifies the European book, and it consists of pages hinged or sewn at one side. Mexican usage has long confused *codex* with *manuscript*.
  - 31. F. Burgoa, Palestra historial (Mexico, 1670).
- 32. A. Dibble, *Códice Xolotl* (Mexico, 1951). On the Tlailotlacs, see B. Dahlgren de Jordan, *La Mixteca*, 58.
- 33. C.A., VIII (1949), no. 5, 165 ff. Two other dynastic lists are known: one for Teozacualco, and another (Codex Selden, Oxford) for an unidentified place represented by the sign of a spitting mountain. Both lists display divisions and durations similar to those of Tilantongo. Cf. B. Dahlgren de Jordan, La Mixteca, chapter v, and P. Dark, Mixtec Ethnohistory (Oxford, 1958).
- 34. A. Caso, 'Base para la sincronología Mixteca p. 101 y cristiana', *Memoria de el Colegio Nacional*, VI (1951), 49–66, calls it 'spitting-mountain'.
- 35. Lienzo de Zacatepeque, ed. A. Peñafiel (Mexico, 1900); C. G. Rickards, 'Notes of the "Codex Rickards", J.S.A., x (1913), 47-57.
- 36. J. Cooper Clark, The Story of Eight Deer (London, 1912).
- 37. Facsimile reproductions: Colombino in A. Chavero, Antigüedades mexicanas (Mexico, 1892); Becker in H. de Saussure, Le manuscrit du cacique (Geneva, 1892).
- 38. E. Seler, 'Der Codex Borgia und die ver- p. 102 wandten aztekischen Bilderschriften', G.A., I, I33-44; W. Lehmann, J.S.A., II (1905), 251. Seler's study enumerates the parallel passages.
- 39. A deerhide sheet in Paris (Bibl. Nat. MS. Mex. no. 20, repr. in E. Boban, *Manuscrits mexicains*, Paris, 1891, plate 21) shows the nexus between the Borgia group and the Mixtec genealogies.
- 40. G. Vaillant connected Oaxaca and southern Puebla as one archaeological province with the con-

ception of a 'Mixteca-Puebla' area; Aztecs of Mexico (Harmondsworth, 1950), 41-2. His estimate of its importance is best set forth in 'Patterns of Middle American Archaeology', The Maya and their Neighbors (New York, 1940), 295-305.

- 41. E. Seler, Codex Féjerváry-Mayer (Berlin-London, 1902), 210.
- 42. The twenty weeks of thirteen days appear in Borgia, Vaticanus B, Borbonicus, the Aubin tonalamatl, Vaticanus A, and Telleriano-Remensis, sufficiently alike to come all from a common source.
- 43. Accessible if inexact facsimiles are those gathered by Lord Kingsborough in Antiquities of Mexico (London, 1831). Laud, Bodley, and Selden have never again been reproduced integrally. Féjerváry-Mayer, Borgia, Cospi, Vaticanus B, Vienna, Zouche-Nuttall, and Colombino-Becker have all been reproduced in more or less modern facsimiles, the first four at the expense of the Duc de Loubat in exact colour photography; the Vienna manuscript likewise (by W. Lehmann and O. Smital, in 1929). The Zouche-Nuttall and Colombino-Becker manuscripts exist in tracings reproduced lithographically in colour: Codex Nuttall, Cambridge, Mass., 1902; H. de Saussure, Le manuscrit du cacique, Geneva, 1892, and A. Chavero, Antiguedades mexicanas, Mexico, 1892 (vol. of plates).
- p. 103 44. J. Soustelle, La pensée cosmologique des anciens Mexicains (Paris, 1940), 57.
  - 45. E. Seler, 'Venus Period in the Picture Writings of the Borgian Codex Group', B.B.A.E., XXVIII (1904), 355-91.
  - 46. C. C. Meigs, Mesoamerican Notes, IV (1955), 72-9.
  - 47. E. Noguera, El Horizonte Tolteca-Chichimeca (Mexico, 1950); S. K. Lothrop, The Pottery of Costa Rica and Nicaragua (New York, 1926); G. Ekholm, 'Excavations at Guasave, Sinaloa', A.M.N.H.A.P., XXXVIII (1942).
  - 48. I. Bernal, 'Excavaciones en Coixtlahuaca', R.M.E.A., x (1949), 5-76.
- p. 104 49. E. Noguera, La cerámica arqueológica de Cholula (Mexico, 1954), 120-42.
  - 50. A. Caso, Exploraciones (1932), and Natural History, XXXV (1932), no. 5, discusses the contents of Tomb 7 at Monte Alban. See also M. H. Saville,

The Wood-carver's Art in Ancient Mexico (New York, 1925); Turquoise Mosaic Art in Ancient Mexico (New York, 1922); and The Goldsmith's Art in Ancient Mexico (New York, 1920).

- 51. Turquoise chips appeared in the early village site of El Arbolillo in the Valley of Mexico, probably imported from the north. Vaillant, A.M.N.H.A.P., xxxv (1935), 245.
- 52. E. Morris, J. Charlot, and A. Morris, Temple of the Warriors, I (Washington, 1931), 189 f.
- 53. M. Saville, *Turquoise Mosaic*, plates v, vI, p. 105 vII, vIII, XIX, XXI are Toltec; the Mixtec cave finds are discussed on pp. 47 and 63.
- 54. E. Seler, 'Über szenische Darstellungen auf altmexikanischen Mosaiken', G.A., IV, 362-83.
- 55. S. K. Lothrop, 'Metals from the Cenote of Sacrifice', P.M.M., x (1952), 22-6; P. Rivet, La métallurgie en Amérique précolombienne (Paris, 1946).
- 56. S. K. Lothrop, 'Archaeology of Southern Veraguas, Panama', P.M.M., IX (1950).

# CHAPTER 6

- I. Many regions of western Mexico are still un- p. 106 known as far as their archaeology is concerned. C. Lumholtz, *Unknown Mexico* (New York, 1904), is indispensable; more recently, Isabel Kelly has established the principal outlines of west Mexican archaeology upon firm foundations by her own excavations and reconnaissances. *Ibero-Americana*, XIV (1938); XXV-XXVI (1945); XXVI (1949) contain the reports of her work in Sinaloa and Jalisco. *V.F.P.A.*, VII (1947), discusses the Apatzingan excavations in Michoacán.
- 2. M. Covarrubias, Mezcala, Ancient Mexican Sculpture (New York, 1956); also 'Tipología de la industria de piedra tallada y pulida de la Cuenca del Río Mezcala', El occidente de México (S.M.A.M.R., IV) (Mexico, 1948), 86–90; and Indian Art of Mexico and Central America (New York, 1957), 104–14.
- 3. M. Covarrubias has discussed the class as 'puramente local', without great antiquity, and as derivative from the Olmec axes; *El occidente de México* (S.M.A.M.R., IV), 88.
- 4. Guerrero sculpture is also illustrated by G. p. 107 Médioni and M. T. Pinto, Art in Ancient Mexico (New York, 1941), figures 4-32, and G. Kubler, The Arensberg Collection (Philadelphia, 1954).
  - 5. In western Guerrero, at Placeres de Oro (now

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called Vistahermosa), slabs with feline figures in incised relief distantly resembling the Chavín style were reported by H. J. Spinden (A.A., XIII (1911), 29–55). I. Kelly has related the site to middle period finds at Apatzingan (El occidente de México, S.M.A.M.R., IV, table opposite p. 76).

- p. 108 6. I. Kelly, in S.M.A.M.R., IV, 55. Also S.M.A.M.R., III (West Mexico), 1943.
  - 7. J. Corona Núñez, 'Tumba de el Arenal, Etzatlán, Jal.', Informes I.N.A.H., III (Mexico, 1955). For Nayarit, see J. Corona Núñez, 'Diferentes tipos de tumbas prehispánicas in Nayarit', Yan, III (1954), 46–50.
  - 8. H. D. Disselhoff excavated several intact tombs at sites south-east of the town of Colima, finding associated lots of figurines with coffee-bean eyes and slab figurines, as well as slit-eye figures in other tombs; Revista del Instituto de Etnología de la Universidad Nacional de Tucumán, II (1932), 525-37.
  - 9. Without advancing a chronology, P. Kirchhoff, Arte precolombino del occidente de México (Mexico, 1946), set forth a classification by costume, distinguishing nude, breech-clout, and painted-garment folk, whom he provisionally identified with distinct ethnic groups in western Mexico.
    - 10. Ibid., plates 75-82.
    - 11. Ibid., plates 42-3.
- p. 109
  12. This grouping of 'early' and 'late' is based upon the figure of a mother and child in the Diego Rivera Collection (Arte precolombino, 51). The two styles appear together: the mother is of 'late' Ameca workmanship, and the suckling infant shows the retention of 'earlier', less articulated habits of modelling. It can of course be argued from this evidence that both manners are coeval. The linking of both types as of Ameca Valley origin remains valid.
  - 13. E. W. Gifford, 'Surface Archaeology of Ixtlán del Río, Nayarit', *U.C.P.A.A.E.*, XLIII (1950), 183–302. All three of our types, and others, are represented in collections from the area about Ixtlán.
    - 14. In Arte precolombino, 31.
- p. 110

  15. J. Corona Núñez, 'Relaciones arqueológicas entre las Huastecas y las regiones al Poniente', R.M.E.A., XIII (1952–3), 479–83, ascribes the differences of the Nayarit style to Huasteca origins, and he regards Nayarit as the centre of diffusion to Jalisco and Colima. A circular platform at Ixtlán was recently rebuilt with profiles like those of Tajín (op. cit., figures 66–70); it would correspond to the period of the large tomb figures with fully modelled eyes.

- 16. By analogy with central Mexican religion, as reported by Motolinia in the sixteenth century! S. Toscano, in *Arte precolombino*, 24.
- 17. E. Noguera, 'Exploraciones en El Opeño, Michoacán', I.C.A., XXVII (1943), 574-86.
- 18. M. N. Porter, 'Excavations at Chupícuaro', Transactions of the American Philosophical Society, XLVI (1956), part 5, 515-637.
- 19. E. Noguera, 'Exploraciones en Jiquilpan', Anales del museo michoacano, III (1944), 37–52. The parallel platforms, identified by Noguera as a ball-court, are about 30 yards apart, much too wide for the ascribed purpose. The name of the site itself is El Opeño, west of the city of Jiquilpan.
- 20. M. Covarrubias, *Indian Art of Mexico and Central America*, 95, charts the occurrences of the inlaid-paint technique from Arizona to Peru. Detailed discussion of west Mexican examples in G. Ekholm, *A.M.N.H.A.P.*, xxxvIII (1942), 91-6. Ekholm regarded Teotihuacán 'frescoed' pottery as an imitation of western lacquer (p. 95) rather than as deteriorated lacquer (as Covarrubias suggests).
- 21. D. Rubín de la Borbolla, 'Arqueología p. 111 tarasca', Occidente de México (S.M.A.M.R., 1V), 30-5.
- 22. The Relación de Michoacán (1541), ed. Tudela (Madrid, 1956), is the most important historical source, richly illuminated with drawings of the period.
- 23. D. Rubín de la Borbolla, 'La orfebrería tarasca', C.A., III (1944), no. 3.
- 24. G. Ekholm, 'Excavations at Guasave', p. 113
  A.M.N.H.A.P., XXXVIII (1942). The term 'Aztatlán' originally meant post-Classic, red-on-buff pottery on the west coast of Mexico. I. Kelly, *Ibero-*Americana, XIV (1938), 19. 'Aztatlán' now refers to a
  pre-Aztec and post-Classic archaeological period in
  Culiacán and Sinaloa.
  - 25. I. Kelly, Ibero-Americana, XXV (1945).
- 26. J. M. Reyes, 'Breve reseña ...', Boletín de la Sociedad de Geografía y Estadística, v (1881), 385 ff.
- 27. P. Armillas, 'Fortalezas mexicanas', C.A., VII (1948), no. 41, 143-63.
- 28. E. Noguera, Ruinas arqueológicas del norte de México (Mexico, 1930); E. Guillemin Tarayre, Exploration minéralogique des régions mexicaines (Paris, 1869); M. Gamio, Los monumentos arqueológicos de las immediaciones de Chalchihuites (Zacatecas, 1910); A. Hrdlička, 'The Region of the Ancient Chichimecs', A.A., v (1903), 384-440.

# NOTES TO PART TWO

### CHAPTER 7

- p. 115 I. S. G. Morley, Inscriptions of Peten, IV (1938), 313.
  - 2. Only some Classic Maya sites display all the diagnostic traits. At Holmul in the Petén only the vaulted architecture survives; at Pusilhá we have only the stelae and glyphs; at El Paraiso there are only stelae.
  - 3. R. L. Roys, 'The Engineering Knowledge of the Maya', C.A.A., п (1934), 27–105.
  - 4. A. L. Smith, 'The Corbelled Arch in the New World', *The Maya and their Neighbors* (New York, 1940), 202-21.
- p. 117 5. R. Wauchope, *Modern Maya Houses* (Washington, 1938), and 'House Mounds of Uaxactun', *C.A.A.*, II (1934), 107–71.
  - 6. J. E. S. Thompson, Maya Hieroglyphic Writing (Washington, 1950); also T. S. Barthel, 'Die gegenwärtige Situation in der Erforschung der Maya-Schrift', J.S.A., XLV (1956), 219–27.
  - 7. The most convenient edition of the Madrid, Paris, and Dresden manuscripts is by C. and J. A. Villacorta, Los códices Mayas (Guatemala, 1930). The inscriptions are best studied in S. G. Morley, The Inscriptions of Peten, 5 vols (Washington, 1937–8).
  - 8. Epigraphers refer to part of the Classic era of Maya history as the 'Initial Series period'.
  - 9. The best account of Maya hieroglyphs and calendar mechanisms, written for beginners, is still that by S. G. Morley, 'An Introduction to the Study of the Maya Hieroglyphs', B.B.A.E., LVII (1915).
  - 10. H. J. Spinden, Ancient Civilizations of Mexico and Central America, first published in New York in 1917. The scheme persisted as late as S. G. Morley's Ancient Maya (Stanford University, 1947).
  - 11. Described in detail by S. G. Morley, The Ancient Maya, 141-8.
  - 12. Basic is the introduction to O. G. and E. B. Ricketson, *Uaxactun*, *Guatemala*. *Group E. 1926–1931* (Washington, 1937), summarizing and expanding the new views on Maya agriculture and land use.
  - 13. A. V. Kidder, N.M.A.A.E., III (1946-8), 128. On survivals in the vacant towns and concourse centres of modern Guatemala, see Sol Tax, A.A., XXXIX (1937). On the agricultural necessity for the

- division of ritual and dwelling centres, R. Linton, 'Crops, Soils, and Cultures in America', *The Maya and their Neighbors* (New York, 1940), 39–40. On Maya domestic buildings of Classic date, R. Wauchope, 'House Mounds of Uaxactun', *C.A.A.*, II (1934), 107–71. On parallels with the Khmer cities of the Angkor period (A.D. 802–1431), M. D. Coe, *Am.A.*, XXII (1957), 409–10.
- 14. Estimate based upon the house mound count p. 120 at Uaxactún. Ricketson and Ricketson, *Uaxactun*, 15, 23. Total Maya population in the Classic era is estimated upon these samples as between eight and thirteen million.
- 15. C. W. Cooke, 'Why the Mayan Cities of the Peten District, Guatemala, were abandoned', Journal of the Washington Academy of Sciences, XXI (1931), 283–7. Also W. R. Bullard, Jr, 'Maya Settlement Pattern in North-eastern Petén, Guatemala', Am.A., XXV (1960), 355–72. R. F. Carr and J. E. Hazard, Tikal Reports, no. 11 (1961), 15, reject the silted lake thesis on the basis of their survey of Tikal, conceding, however, that unsurveyed areas of bajo at Tikal 'may once have been lakes'.
- 16. Epigraphic: S. G. Morley, Inscriptions of the p. 121 Peten, Table, IV, 358–79; R. L. Roys, 'The Maya Katun Prophecies of the Books of Chilam Balam', C.A.A.H., XII (1954), no. 57; ceramic: R. E. Smith, Ceramic Sequence at Uaxactun (New Orleans, 1955).
- 17. Radiocarbon: W. F. Libby, Radiocarbon Dat- p. 122 ing (Chicago, 1955), L. Satterthwaite, Am.A., xxI (1956), 416, and E. K. Ralph, Am.A., xxVI (1960), 165-84. S. G. Morley, 'The Correlation of Maya and Christian Chronology', American Journal of Archaeology, xIV (1910), 193-204, and H. J. Spinden, 'The Reduction of Maya Dates', P.M.P., VI (1924), no. 4. For other correlations, J. E. S. Thompson, C.A.A., III (1935), no. 14.
- 18. Full publication of the recent excavations in Current Reports (Carnegie Institution of Washington, Division of Historical Research).
- 19. Petén is a Maya term used for a lake or island interchangeably, and in general it means 'any geographical body surrounded by a different body'; J. E. Thompson, H. E. D. Pollock, and J. Charlot, A Preliminary Study of the Ruins of Cobá (Washington, 1932), 198.
  - 20. Ibid.

- 21. F. Rainey, 'The Tikal Project', University Museum Bulletin, xx (1956), no. 4. See also Antropología e Historia de Guatemala, III (1951), no. 1, articles by E. M. Shook and H. Berlin. E. M. Shook, University Museum Bulletin, XXI (1957), 48, describes the newly discovered Tikal assemblages called 'twin pyramid complexes', erected every twenty years, and consisting 'of a court with a single stela and altar set in an enclosure on the north side, facing a vaulted building directly opposite on the south side. Identical pyramids are on the east and west sides. These are flat-topped and have a stairway on each of their four sides'. Further details in Tikal Reports, nos 1-4 (1958), 9-10. The new survey of Tikal (Tikal Reports, no. 11, 1961) contains accurate maps, but it reached the writer too late for inclusion in this work.
  - 22. O. G. and E. Ricketson, *Uaxactun*, *Group E* (Washington, 1937). Another example in central Yucatán is La Muñeca, Structure XIII; K. Ruppert and J. H. Denison, Jr, *Archaeological Reconnaissance in Campeche*, *Quintana Roo*, *and Peten* (Washington, 1943). See also Acanceh, in Marquina, 800–5.
- p. 124 23. Gnomon groups are listed by Morley, *Inscriptions of Peten*, III (1938), 107. Also O. G. and E. Ricketson, *op. cit.*, 107; K. Ruppert and J. H. Denison, Jr, *op. cit.*, 5–6.
  - 24. A. M. Tozzer, 'Nakum', P.M.M., v (1913), no. 3.
  - 25. T. Maler, 'Tikal', P.M.M., v (1911), no. 1, 3-135.
  - 26. T. Proskouriakoff, An Album of Maya Architecture (Washington, 1946), plates 28-36.
  - 27. S. G. Morley, *Inscriptions of Peten*, IV, 4. Markers at Cancuen, Lubaantun, Chinkultic, Laguna Perdida. F. Blom, *M.A.R.S.*, IV (1932), 487, analyses texts and typology. For Tikal, E. M. Shook, *University Museum Bulletin*, XXI (1957), 37–52. A ball-court at Calakmul may also be added to the Petén family.
- p. 126 28. R. L. Roys, loc. cit. (Note 3).
- р. 127 29. G. Kramer, Maya Research, II (1935), 106-18.
- p. 128 30. G. Stromsvik, Copan (Washington, 1947). Copán has always been more easily accessible than any other Classic Maya site. Early accounts of its architecture may be found in J. L. Stephens, Incidents of Travel in Central America (New York, 1841); A. P. Maudslay, Biologia Centrali-Americana (London, 1889–1902); J. M. Longyear III, 'A Historical Interpretation of Copan Archaeology', I.C.A., XXIX (1951), 86–92.

- 31. A. S. Trik, 'Structure XXII, Copan', p. 129 *C.A.A.H.*, vI (1939), 87–106; G. B. Gordon, 'The Hieroglyphic Stairway', *P.M.M.*, I (1902).
- 32. S. G. Morley, Guide Book to the Ruins of p. 130 Quirigua (Washington, 1935).
- 33. L. Satterthwaite, *Piedras Negras*, part v (1952), 25, questions Morley's identification as sweat-baths.
- 34. The best early accounts are by W. H. Holmes, Archaeological Studies among the Ancient Cities of Mexico, II (Chicago, 1897), and A. P. Maudslay, Biologia Centrali-Americana, text volume IV. The most recent account of Palenque chronology is by R. L. and B. C. Rands, 'The Ceramic Position of Palenque, Chiapas', Am.A., XXIII (1957), 140-50.
- 35. A. Ruz Lhuillier, 'Exploraciones en Palenque: 1951', A.I.N.A.H., v (1951), 65 f., and 'Presencia atlántica en Palenque', R.M.E.A., XIII (1952–3), 455–62.
- 36. As in W. H. Holmes, Archaeological Studies, II p. 133 (1897), figure 43. M. D. Coe, 'The Funerary Temple among the Classic Maya', Southwestern Journal of Archaeology, XII (1956), 387–94, has proposed the Palace as having been used more for ceremonies than for residence.
- 37. A. Ruz Lhuillier, 'Exploraciones', A.I.N.A.H., IV (1949–50), 49–60.
- 38. A. Ruz Lhuillier, 'Exploraciones en Palenque: 1950', A.I.N.A.H., v (1951), 25-46.
- 39. A. Ruz Lhuillier, 'Estudio de la cripta del p. 134 templo de las inscripciones en Palenque', *Tlatoani*, I (1952), nos 5-6, 2-28.
- 40. The best description is by F. Blom and O. Lafarge, *Tribes and Temples* (New Orleans, 1926), I, 104–36.
- 41. E. R. Littmann, Am.A., XXIII (1957), 135-40. Fired bricks of pebble-tempered clay are reported from Corozal in British Honduras; T. Gann, B.B.A.E., LXIV (1918), 82.
- 42. T. Maler, P.M.M., II (1903), 104 ff., called them the lesser (western) and the Great Acropolis (eastern) groups.
- 43. L. Satterthwaite, Jr, Piedras Negras Preliminary p. 136 Papers, Philadelphia, and Piedras Negras Archaeology: Architecture, 1–VI (1943–54). T. Maler first reported in detail on the site: P.M.M., π (1901).
- 44. L. Satterthwaite, Jr, 'A Stratified Sequence of p. 138 Maya Temples', Journal of the Society of Architectural Historians, v (1946–7), 15–20, and 'Some Central Peten Maya Architectural Traits at Piedras Negras', Los Mayas antiguos (Mexico, 1941), 183–210.

- 45. L. Satterthwaite, Jr, Piedras Negras Archaeology: Architecture, Part v, Sweathouses (Philadelphia, 1952).
- 46. C. L. Lundell, 'Preliminary Sketch of the Phytogeography of the Yucatan Peninsula', C.A.A., II (1934), 274–5; K. Ruppert and J. H. Denison, Jr, Archaeological Reconnaissance in Campeche, Quintana Roo and Peten (Washington, 1943). W. Haberland designates this area as the Río Candelaria district (Die regionale Verteilung von Schmuckelementen im Bereiche der klassischen Maya-Kultur, Hamburg, 1953), although the course of this river is in doubt. The best recent account of Campeche is by A. Ruz Lhuillier, Campeche en la arqueología Maya (Acta Anthropologica, I: 2–3 (Mexico, 1945)).
- p. 142 47. The best systematic description of the subdivisions of the architecture of Campeche is by A. Ruz Lhuillier, op. cit.
  - 48. S. G. Morley, The Ancient Maya, 77, 80.
  - 49. K. Ruppert and J. H. Denison, Archaeological Reconnaissance, figure 112.
  - 50. Puuc-style buildings occur in Chenes territory. Dzibiltun is an example.
  - 51. T. Proskouriakoff, An Album of Maya Architecture (Washington, 1946); R. E. Merwin and G. C. Vaillant, 'The Ruins of Holmul', P.M.M., III (1932).
  - 52. R. L. Roys distinguishes this 'northern block masonry' from the block masonry of Copán in terms of the superior northern cement and concrete; 'The Engineering Knowledge of the Maya', C.A.A., II (1934), 67–8. A. Ruz Lhuillier, Campeche en la arqueología Maya, figure 4, calls them tenoned blocks, 'piedras biseladas', as contrasted to the 'lajas saledizas' or slabs of Usumacinta type.
- p. 143 53. S. G. Morley and G. W. Brainerd, *The Ancient Maya* (Stanford, 1956), 264. Excellent summary of Puuc archaeology in J. E. S. Thompson, 'El area maya norte', *Yan*, III (1954), 8–13.
  - 54. The most detailed modern accounts of Puuc architecture are in the *Yearbooks* of the Carnegie Institution of Washington, especially the reports signed by H. E. D. Pollock, *Yearbook*, xxxv (1935–6), 122, and E. W. Andrews, *Yearbook*, xII (1941–2), 257. Also E. Shook, 'Oxkintok', *R.M.E.A.*, IV (1940), 165–71.
  - 55. Represented in all the archaeological publications of the Carnegie Institution of Washington.
    - 56. Proskouriakoff, 154-72.
    - 57. W. F. Libby, op. cit. (Note 17).
- p. 144 58. A. Ruz Lhuillier, Campeche en la arqueología

- Maya, 42, calls the western group the Camino Real, along the railway line from Campeche to Mérida.
- 59. The best rapid survey is by A. Ruz Lhuillier, op. cit., 52-61.
- 60. G. W. Brainerd, The Archaeological Ceramics of Yucatan (Anthropological Records, XIX) (Berkeley, 1958), 26.
- 61. Examples of atadura capitals in buildings of the Río Bec are Channa, Structure 1 (Ruppert and Denison, op. cit., figures 77–9), and Culucbalom (ibid., figure 112).
- 62. Columns are rare at Uxmal: local peculiarity or chronological clue?
- 63. The outer ranges, according to A. Ruz, op. p. 145 cit., 55, are later additions.
- 64. Other chambered pyramids are that at Santa p. 147 Rosa Xtampak and the Akabtzib at Chichén Itza. On Xtampak, see T. Maler, 'Yukatekische Forschungen', Globus, LXXXII (1902), abb. 19, 226. It has early traits related to the Río Bec-Chenes style.
- 65. Marquina, 768. On recent work at Uxmal, p. 148 see A. Ruz Lhuillier, A.I.N.A.H., vI (1952), 49–67, suggesting that no building post-dates the thirteenth century.
- 66. E. Seler, 'Die Ruinen von Uxmal', Abhandlungen der königlich preussischen Akademie der Wissenschaften (Phil.-hist. Kl.) (1917), no. 3, 20.
  - 67. E. Seler, loc. cit., abb. 87a.
- 68. F. Blom, 'The "Negative Batter" at Uxmal', Middle American Papers, New Orleans, IV (1932), 559-66, supposes that the outward lean served only to stress the cast shadows in the friezes.

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- 69. E. Seler, *loc. cit.*, figure 44, illustrates this older, plainer edifice, encased within the present structure, of which the trapezoidal doorways appear within the later frames.
- 70. For discussion of wall-span ratios in relation to age, L. Satterthwaite, *Piedras Negras Preliminary Papers*, III (1935), 56-9.
- 71. According to A. Ruz, A.I.N.A.H., vI (1952), p. 150 59-60, colonnaded aedicules, probably later additions, masked these archway designs. See his figure 4.

# CHAPTER 8

1. T. Proskouriakoff, Classic Maya Sculpture p. 151 (Washington, 1950); W. Haberland, 'Die regionale Verteilung von Schmuckelementen in Bereiche der klassischen Maya-Kultur', Beiträge für mittelamerikanische Völkerkunde, II (1953).

- p. 152 2. J. E. S. Thompson, Maya Hieroglyphic Writing (Washington, 1950), especially chapters 8 and 9.
  - 3. The hypothesis is mine; the evidence is collected in W. Taylor, 'The Ceremonial Bar and Associated Features of Maya Ornamental Art', Am.A., vII (1941), 41-63; J. E. S. Thompson, 'Sky Bearers, Colors and Directions in Maya and Mexican Religion', C.A.A., II (1934), 209-42, and Proskouriakoff, figure 31.
  - 4. Proskouriakoff distinguishes only Early and Late Classic; her 'Late' is our Middle; and our 'Late' Classic is her post-Classic in architecture. But her Late Classic and our Late Classic in figural sculpture coincide. Here we separate Puuc architecture and Late Classic sculpture, where others have driven them together.
  - 5. S. G. Morley, *The Inscriptions of Peten*, 5 vols (Washington, 1937-8).
- p. 153 6. K. Ruppert, J. E. S. Thompson, T. Proskouriakoff, *Bonampak* (Washington, 1955).
  - 7. S. G. Morley, Quirigua (Washington, 1935), 76-87.
  - 8. M. A. Fernández, 'Los Dinteles de Zapote', I.C.A., XXVII (1939), I, 601. The fundamental article (which reached the author too late for the incorporation of its results) is by W. R. Coe, E. M. Shook, and L. Satterthwaite, 'The Carved Wooden Lintels of Tikal', Tikal Reports, no. 6 (1961), 15–111.
  - 9. Maya Art and Civilization (Indian Hills, 1957), figure 212 (first published in 1913).
- p. 154
  10. This sequence is based upon the stylistic analysis by T. Proskouriakoff, op. cit., which resolves many problems left open by S. G. Morley's epigraphic results (Inscriptions of Peten, II, 434). Morley interpreted Palenque as the initiator of Usumacinta sculptural traditions.
  - II. E.g. Piedras Negras, Stelae 26, 8, 4, 1, ranging from about 9.10.0.0.0 to about 9.13.0.0.0; T. Maler, *P.M.M.*, II (1901). The feet of Stela 7 (9.14.10.0.0, or about A.D. 460) open more naturally, at an angle of 120–130 degrees.
  - 12. Detailed colour notes in S. G. Morley, Inscriptions of Peten, III. Flesh parts were red.
- p. 155
  13. Illustrated in S. G. Morley and G. W. Brainerd, *The Ancient Maya* (Stanford, 1957), plate 70 and figure 39. Full account in L. Satterthwaite, Jr, *Piedras Negras Preliminary Papers*, III (1935).
  - 14. The Initial Series date is 9.18.5.0.0 (c. A.D. 535), corrected on stylistic grounds by Miss Proskouriakoff to 9.17.0.0.0 2 (A.D. 511 ±40). Proskouriakoff's important new article ('Historical

Implications of a Pattern of Dates at Piedras Negras, Guatemala', Am.A., xxv (1960), 454–75) suggests that the representations are dated portraits of rulers and their families, recording the history of successive reigns.

Here, and in many other monuments as well, the traces of earlier work are visible as residues of other designs destroyed when the stela was resurfaced. These observations by Dr Baker of the University of Arizona will soon be published.

- 15. Proskouriakoff, 119, notes a resemblance to the sculpture of Xochicalco, and suggests that Piedras Negras may early have been part of a south Mexican complex. Compare E. Seler, G.A., II, 128-67, especially figures 10, 33, 61, 64.
- 16. Imitations or derivatives of the seated figure in a niche occur at Quiriguá, Stela I, back (Morley, Inscriptions of Peten, IV, plate 172d) and Xochicalco (Seler, op. cit., figure 61, p. 155). The Quiriguá figure is dated on style 9.17.0.0.0 ±2 katuns (A.D. 511±40). See the Teapa (Tabasco) urn, discussed by Carmen Leonard in Yan, III (1954), 83–95. Cf. p. 212 on the sculpture of Santa Lucía Cozumalhuapa in the central highlands of Guatemala.
- 17. Other grain-scattering scenes in the Petén and Motagua regions are enumerated by Morley, *Inscriptions of Peten*, III, 241.
- 18. The sculpture of Bonampak is clearly related p. 156 to Yaxchilán, and it is fully discussed in the monograph by K. Ruppert, J. E. S. Thompson, and T. Proskouriakoff, op. cit. (Note 6).
- 19. Even earlier is Lintel 46 (Maler, P.M.M., II (1903), plate LXVIII), dated about 430 (9.13.0.0.0).
- 20. Cf. 'stelae' at Tonina (F. Blom and O. La- p. 157 Farge, *Tribes and Temples*, II (New Orleans, 1926), figures 212–56) and Tajín. The Tonina statues were carved about the middle of the fifth century A.D. (9.11.0.0.0–9.15.0.0.0, Proskouriakoff, 121). Occasional statues of seated figures are known at Yaxchilán and Copán, but the form is rare, and bound to architectural emplacements.
- 21. The best descriptions of Palenque sculpture are by A. P. Maudslay, Biologia Centrali-Americana. E. Seler, 'Beobachtungen und Studien', Abhandlungen der preussischen Akademie der Wissenschaften, Phil.-Hist. Klasse (1915), no. 5. R. Trebbi del Trevigiano, Critica d'arte, xxvIII (1958), 246-85, boldly attempted a grouping of Palenque sculpture by personal style. The effect is worth while, but it overlooks many monuments and it disregards Miss Proskouriakoff's fundamental work on Classic Maya sculpture. He identifies a 'Maestro della

- Croce' and the works of his pupils, as well as a 'Maestro dei Volti' (stucco façade masks), and a 'Maestro dei Rilievi Tardi' and his school, spanning the sixth to mid eighth centuries.
- p. 158 22. A. Ruz Lhuillier, 'Exploraciones en Palenque, 1950', A.I.N.A.H., v (1952), 35-8.
  - 23. A. V. Kidder, E. M. Shook, and J. D. Jennings, Excavations at Kaminaljuyu (Washington, 1946), 104–24; A. L. Smith and A. V. Kidder, Excavations at Nebaj (Washington, 1951), 32–42. Also W. F. Foshag, in Pre-Columbian Art (R. W. Bliss Collection) (New York, 1957), 45–7. A jade mine near Guatemala City is reported in Archaeology, VII (1954), 120.
  - 24. Cf. S. G. and F. Morley, 'The Age and Provenance of the Leyden Plate', C.A.A.H., v (1939), I-17, who ascribe the carving to Tikal. The piece was found near the Motagua river delta (now in the Rijksmuseum voor Volkenkunde, Leyden, Holland).
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  25. On carved wares, R. E. Merwin and G. C. Vaillant, 'The Ruins of Holmul', P.M.M., III (1932), 79–80; Mary Butler, 'A Pottery Sequence from Guatemala', The Maya and their Neighbors (New York, 1950), 261–4; R. E. Smith, Ceramic Sequence at Uaxactun (New Orleans, 1955), 42–4. On pre-Classic shape, see Vaillant's remarks on the Q-complex in Maya Research, I (1934), 87–100; J. E. S. Thompson's on vessel shapes in Excavations at San José (Washington, 1939), 230, 246. On carved 'Fine Orange' ware, R. E. Smith, Am.A., XXIV (1958), 151–60.
  - 26. M. H. Saville, A Sculptured Vase from Guatemala (New York, 1919). Authenticity questioned by J. E. S. Thompson, Am.A., IX (1943), 116.
  - 27. J. E. S. Thompson, San José, 156; R. E. Smith, Uaxactun, 100; J. M. Longyear, The Ceramics of Copan (Washington, 1952), 104.
  - 28. A. Ruz Lhuillier, Campeche (Mexico, 1945), 71–2. The catalogue of the exhibition entitled Art of the Maya Civilization, held 4 September–5 October 1957 at the Martin Widdifield Gallery, New York, is the most comprehensively illustrated survey of Jaina figurines to date. The text is by H. J. Spinden. See also H. Moedano Koer, 'Jaina: un cementerio Maya', R.M.E.A., VIII (1946), 217–42.
- p. 160
  29. H. J. Spinden, A Study of Maya Art, P.M.M., VI (1913); Pre-Columbian Art (Bliss Collection) (New York, 1957), plates LXXVI-LXXVII; P. Kelemen, Medieval American Art, II (New York, 1943), plates 133-4.

- 30. Illustrated in Morley and Brainerd, The Ancient Maya, plate 82, bottom corners, and Pre-Columbian Art (New York, 1957), plate LXIX.
- 31. Another focus of moulded production was the Alta Verapaz region of the Guatemalan highlands, along the upper Chixoy drainage. These wares are best illustrated in E. P. Dieseldorff, Kunst und Religion der Mayavölker (Berlin, 1926), figures 5–49. Also Mary Butler in The Maya and their Neighbors (New York, 1940), 261–4. R. E. Smith, 'Pottery from Chipoc', C.A.A.H., XI (1952), 215–34, connects Chipoc mould-made figurines with Tepeu 1–2.
- 32. The best analysis of serpent-mask panels is by H. J. Spinden, *P.M.M.*, vI (1913), 118–27, reissued in Part I of *Maya Art and Civilization* (Indian Hills, 1957).
- 33. R. E. Merwin and G. C. Vaillant, *P.M.M.*, III (1932), no. 2, 18–20.
- 34. A. S. Trik, 'Temple XIII at Copan', p. 161 C.A.A.H., v (1939), 87–103.
- 35. K. Ruppert and J. H. Denison, Archaeological p. 162 Reconnaissance (Washington, 1943), figures 45, 96,
  - 36. Ruppert and Denison, op. cit., plates 35-6.
- 37. The best photographs of the Chenes façades are in E. Seler, 'Die Quetzalcouatl-Fassaden Yukatekischer Bauten', Abhandlungen der preussischen Akademie der Wissenschaften, Phil.-Hist. Kl. (1916). J. E. S. Thompson, 'Las llamadas fachadas de Quetzalcoatl', I.C.A., XXVII (1939), 391–400, withdraws the iconographic identification. The accounts of Puuc architecture are by T. Maler in Globus, LXVIII (1895), LXXXII (1902).
- 38. A radiocarbon date from the north building of the Nunnery at Uxmal yields A.D. 893 ±100; Science, CXXVII (1958), 136. The style of this building resembles the Nunnery. The date was published as from the 'House of the Apes'; Dr Ruz has corrected this provenance in a letter to the author.
- 39. E. Viollet-le-Duc, 'Antiquités américaines', in D. Charnay, Cités et ruines américaines (Paris, 1863), 1–104.
- 40. Channa, St I, Room 2, has engaged cylindrical columns at the door jambs with *atadura* capitals; Ruppert and Denison, *op. cit.*, figure 79. Also Culucbalom, St I (*ibid.*, figure 112).
- 41. K. Ruppert, J. E. S. Thompson, T. Proskouriakoff, Bonampak, 28.

- p. 163 42. Described by S. G. Morley, C.I.W. Yearbook, XLI (1941-2), 251. Portions of the sculpture of this core are illustrated by E. Seler, Abhandlungen der preussischen Akademie (1917), 27 f.
- p. 164 43. The actual façades of the north Nunnery building envelop an older construction from which the tiered masks may have been salvaged.
- p. 166 44. Full excavation details in A. L. Smith, Uaxactum 1931–1937 (Washington, 1950), 54–6 and figure 46. The Tzakol dating depends upon ceramic, architectural, and epigraphic evidence. Another painted stucco fragment of Tzakol date was excavated at Nebaj in the Alta Verapaz. See A. L. Smith and A. V. Kidder, Excavations at Nebaj (Washington, 1951), frontispiece and p. 57.
  - 45. Cf. Proskouriakoff, figure 9.
  - 46. K. Ruppert, J. E. S. Thompson, T. Proskouriakoff, op. cit. A crust of opaque calcareous deposits required that the walls be soaked with kerosene until the murals were visible enough for copying in watercolours. Two such copies were made, one by A. Tejeda for the Carnegie Institution and another by A. Villagra for the Mexican government. The first is blonder, and the ruined portions are more legible than in the second. See A. Villagra, 'Las pinturas de Bonampak', C.A., vI (1947), 151–68.
- p. 168 47. This seriation of the rooms is only approximate. It would be more precise to classify the walls as follows: register walls, 1-4, 9; unified single wall, 5; triptych walls, 6-8, 10-12.
- p. 169 48. Thompson, op. cit., 54, regards the prince as drawing blood from his tongue, although no red colour or thorny cord, as at Yaxchilán, supports this view.
  - 49. Is the body headless? If so, does the severed head on the steps in Room 2 belong to this body?
    - 50. E.g. Chinkultic, Cancuen, Copán.
- p. 170 51. E. H. Thompson, P.M.M., III (1904), plate viii.
- p. 171 52. S. G. Morley, The Ancient Maya, 402; A. O. Shepard in J. Thompson, San José, 251–77; R. E. Smith, Ceramic Sequence at Uaxactun (New Orleans, 1955); R. L. and B. C. Rands, 'The Ceramic Position of Palenque', Am.A., XXIII (1957), 140–50.
  - 53. Summarized by R. E. Smith, op. cit. (Ia), 53-9. Techniques described by A. Kidder, E. M. Shook, and J. D. Jennings, Kaminaljuyu (Washington, 1946), 218-38. The decorative use of stucco on

- pottery is as old as the Miraflores phase at Kaminaljuyú (pre-Classic). A. Kidder and A. Shepard, N.M.A.A.E., II (1944), no. 35, 22-9.
- 54. Illustrated in Kidder, Shook, and Jennings, op. cit., figure 205 f.
- 55. Mary Butler, 'A Pottery Sequence from the Alta Verapaz', *The Maya and their Neighbors* (New York, 1940), 250–71. Also E. P. Dieseldorff, *Kunst und Religion der Mayavölker*, 2 vols. (Berlin, 1926–31), illustrating many examples.
- 56. University Museum, Philadelphia, illustrated p. 172 by Gordon and Mason, op. cit., plate LII.
  - 57. Gordon and Mason, op. cit., plates I-п.
- 58. Gordon and Mason, op. cit., plates xxix-xxx.
- 59. C. C. Leonard, 'El vaso de Tabasco', Yan, III (1954), 96–102, interprets the scene as concerning deities and their rituals.
- 60. A. L. Smith, 'Two Recent Ceramic Finds at Uaxactun', C.A.A., II (1934), 1–25; G. E. Merwin and G. C. Vaillant, P.M.M., III (1932), plates 29 and 30; T. W. F. Gann, B.B.A.E., LXIV (1918).
- 61. J. M. Longyear, Copan Ceramics (Washington, 1952), 30–1, 60–3, figure 118; and W. D. Strong, A. Kidder II, and A. J. D. Paul, Smithsonian Institution, Miscellaneous Collections, XCVII (1938), no. 1. Also J. M. Longyear, 'Archaeological Investigations in El Salvador', P.M.M., IX (1944), no. 2.

#### CHAPTER 9

- 1. The most complete account of the history, p. 174 archaeology, and ethnology is by A. M. Tozzer, 'Chichen Itza and its Cenote of Sacrifice', *P.M.M.*, хI–хII (1957).
- 2. A. Barrera Vásquez and S. G. Morley, 'The Maya Chronicles', C.A.A.H., x (1949). Rigorous reviews of all literary evidence in M. Wells Jakeman, The Origins and History of the Mayas (Los Angeles, 1945).
- 3. S. G. Morley and G. W. Brainerd, *The Ancient Maya* (Stanford, 1956), 79–99.
- 4. The best guide to all the ruins is by K. Ruppert, Chichen Itza, Architectural Notes and Plans (Washington, 1952), containing a map (1:3000) with five-foot contours.

p. 176 5. Full details in A. M. Tozzer, loc. cit., 1, 33-50. His sequence:

Chichén Itza I (Yucatán Maya), 600–1000 Chichén Itza II (Toltec Maya A), c. 948–c. 1145 Chichén Itza III (Toltec Maya B), c. 1150–1260 Chichén Itza IV (Dissolution), 1280–1450

Chichén Itza V (Abandonment), 1460–1542 Tozzer ascribes to Period II the main ball-court and the gold disks; here they are set in III. Tozzer puts the Warriors group in III; here it is advanced to II. Tozzer's analysis is ethnographical and archaeological, without special concern for the stylistic factors, on which we base our seriation. Tozzer was unable (e.g. p. 42) to separate conclusively the constructions of Periods II and III.

- 6. F. Morris, J. Charlot, and A. Morris, *Temple of the Warriors*, 1 (Washington, 1931), figure 53.
- 7. A. Tozzer, I.C.A., XXIII (1928), 164, and J. Charlot, in Morris, Temple of the Warriors, I, 342, regard the ball-court as earlier than the Temple of the Warriors because of the coarsening of the sculpture of the Warriors reliefs. Against this argument see p. 195.
- 8. D. Charnay, *The Ancient Cities of the New World* (London, 1887). Charnay's observations were given more systematic form by A. Tozzer, 'Maya and Toltec Figures at Chichén Itza', *I.C.A.*, XXIII (1930), 155–64. The Mexican excavations are reported by Jorge Acosta in *R.M.E.A.* (see pp. 46-7).
- 9. K. Ruppert, 'The Temple of the Wall Panels', C.A.A., I (1931), 139-40, follows H. J. Spinden's 'Study of Maya Art', P.M.M., VI (1913), 205, in this enumeration.
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  10. Most amply represented in the monumental study by A. M. Tozzer, published posthumously as 'Chichen Itza and its Cenote of Sacrifice' (Note 1).
  - 11. H. E. D. Pollock, Round Structures of Aboriginal Middle America (Washington, 1936).
  - 12. K. Ruppert, *The Caracol* (Washington, 1935), 274-5, suggests that it also served as a watch tower.
  - 13. Ruppert, op. cit., 273, admits the possibility that the vaulted portions preceded the building of the secondary platform. The C14 date was published in American Journal of Science, Radiocarbon Supplement, 1 (1959).
- p. 180
  14. Much smaller, although nearly an exact replica of the Castillo, is the High Priest's Grave, also called the Osario. E. H. Thompson, 'The High Priest's Grave', F.M.N.H.A.S., xxvII (1938). Like

the Temple of the Inscriptions at Palenque, this covered a burial below ground level. J. E. S. Thompson, in this publication (p. 59), regarded the edifice as transitional between the Castillo and the Warriors, 'and as also later than the Chacmool Temple'.

- 15. Surely coeval were the Chacmool Temple and the adjoining Temple of the Tables immediately north. The column reliefs and the serpent columns support the comparison.
- 16. This sequence is based upon the floor-levels p. 183 discovered and reported by Earl Morris, op. cit., 1, 172-6.
- 17. On the north-east colonnade, see E. B. Ricketson, 'Sixteen carved Panels from Chichen Itza', *Art and Archeology*, XXIII (1927), 11–15.
  - 18. K. Ruppert, Chichen Itza, 72-4.
- 19. A. Ruz Lhuillier, Campeche en la Arqueologia Maya (Mexico, 1945), 82.
- 20. Proskouriakoff, 171: 'It seems an inescapable conclusion that some contact, however tenuous, must have existed between the Toltec and the classic people in the last phase of the latter's history'. Also Lothrop, 'Metals from the Cenote of Sacrifice', P.M.M., x (1952), 111-12.
  - 21. As set forth by Lothrop, op. cit., 69.
- 22. O. Ponciano Salazar, 'El Tzompantli', *Tlato* p. 185 ani, 1 (1952), 37-41; J. Acosta, 'Exploraciones', A.I.N.A.H., VI (1952), 39-41.
- 23. The edifice is repeated near the Nunnery in the southern, Puuc-period part of Chichén (Structure 3c 17; Ruppert, *Chichen Itza*, 57). Reconstruction drawing in Proskouriakoff, *Album* (Washington, 1946), 22.
- 24. Popular summary of the Mayapán project in p. 186 T. Proskouriakoff, 'Mayapan', Archaeology, VII (1954), 96–103.

Current Reports, nos 1-41 (1952-7), were published at irregular intervals. All deal directly and indirectly with the Mayapán project of the Department of Archaeology at the Carnegie Institution of Washington.

25. J. E. Thompson, H. E. D. Pollock, and J. Charlot, *Cobá* (Washington, 1932), and S. K. Lothrop, *Tulum* (Washington, 1924). Also A. Escalona Ramos, *Boletín de la Sociedad mexicana de Geografía y Estadística*, LXI (1946), 513–628, and M. A. Fernández, *A.M.N.H.A.E.*, III (1945).

26. Op. cit., 172.

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- p. 187 27. In S. G. Morley, The Ancient Maya, 77.
  - 28. Lothrop's sequence of four groups at Tulum is based on roofing habits, number of doorways, and moulding types. His earliest group lacks buildings with negative batter, but Lothrop did not then know of the Puuc associations of this trait.
  - 29. The recessed lintels, and the negative batter itself, recall Mitla in Oaxaca.
- p. 188 30. E.g. Temple no. 5, Tulum, a corbel-vaulted shrine. M. A. Fernández, in *Los Mayas antiguos* (Mexico, 1941), 157–80, dates this negative-batter building in the period between 1000 and 1200.
  - 31. Proskouriakoff, 170; also Morley and Brainerd, *The Ancient Maya*, 83-5.
    - 32. Illustrated in Proskouriakoff, 96-7.
- p. 189 33. The best of all students of Toltec Maya sculpture, Jean Charlot, firmly believed (*Temple of the Warriors*, 1, 340–3) that the ball-court reliefs preceded those of the Temple of the Warriors.
  - 34. Illustrated in Proskouriakoff, figure 94 and pp. 167–8. Older examples are the serpent-mask façades of Chenes and even of Petén-Maya date (see p. 161); they lead rather to the mosaic façade of the Puuc period than to the extended reliefs here under discussion.
- p. 190 35. J. E. S. Thompson, 'Skybearers', C.A.A., II (1934), 234-5.
  - 36. The Maya phrase means red claw, and it is a fanciful appellation given by A. Leplongeon (1876). On distribution, E. Seler, G.A., I, 677; V, 267. Also Lothrop, Pottery of Costa Rica and Nicaragua (New York, 1926), 286. On the possible meaning as a god of drunkenness, C. Lizardi Ramos, C.A., IV (1944), no. 2, 137–48; as a messenger bearing blood-gifts to the gods, J. Corona Núñez, Tlatoani, I (1952), 57–62.
- p. 191 37. The re-cutting is visible in E. H. Thompson, 'The High Priest's Grave', F.M.N.H.A.P., XXVII (1938), 6.
- p. 192 38. Lothrop, loc. cit. (Note 20), 57.
  - 39. For a discussion of the differences between Maya and Toltec costumes, see D. E. Wray, Am.A., XI (1945-6), 25-7.
- p. 194 40. Jean Charlot, in Morris, Charlot, and Morris, Temple of the Warriors, 1, 231–343.
  - 41. H. Moedano Koer, 'El friso de los caciques', A.I.N.A.H., II (1941-6), 113-36, and H. Beyer, 'La procesión de los Señores', México antiguo, VIII (1955), 1-65. The Tizoc Stone in the Mexican

- National Museum (Plate 14) pertains by composition to this family.
- 42. K. Ruppert, C.A.A.H., VIII (1943), 245, noted p. 195 its superiority over other dais, commenting on its 'depth and clarity of definition', and comparing it to the main ball-court reliefs. The dais is far in advance of the slovenly and retrograde pilaster figures at the doorway, which recall the Chacmool Temple pilasters in the cella doorway, by the use of frontal masks in bases and capitals.
- 43. Other examples, possibly earlier, are the façade panels flanking the serpent-column entrance of the cella of the Temple of the Warriors, which may, however, be a later remodelling, because the pier bases inside follow the older style with the median division.
- 44. As in A. M. Tozzer, op. cit., and D. E. Wray, Am.A., XI (1945-6), 25-7.
- 45. E. J. Palacios, *Enciclopedia Yucatanense*, 11 p. 196 (Mexico, 1945), 526, supposes that the disk is the earth, propitiated as a god of fertility by the blood rite.
- 46. Illustrated by M. Covarrubias, *Indian Art of Mexico and Central America* (New York, 1957), figure 81. It is of Late Classic Veracruz style.
- 47. The best account of the North Temple is by p. 197 Adela Breton, *I.C.A.*, XIX (1917), 187–94. The building is also called the Temple of the Bearded Man, in honour of the recumbent figure. The Breton drawing shows the twin serpents arising behind the corpse; another rendering by M. A. Fernández records the serpents as a belt worn by the corpse.
- 48. S. K. Lothrop, *loc. cit.* (Note 20). Disks are p. 200 worn as pectorals by several figures in the reliefs of the lower Temple of the Jaguars: they may represent these gold examples.
  - 49. Loc. cit., 62.
- 50. The Chacmool frescoes are best illustrated in p. 202 Morris, Charlot, and Morris, *Temple of the Warriors*, II, plates 132–8. They represent seated figures like those of Classic stelae, painted in rich, deep tones. The types are Toltec, the forms are Maya.
- 51. The most complete discussion of these murals is by E. Seler, G.A., v, 324–57. Useful reproductions have appeared in Maudslay, *Biologia*, III; T. A. Willard, *City of the Sacred Well* (London, n.d.), opp. 221; and G. O. Totten, *Maya Architecture* (Washington, 1926). Excellent drawings of the south-west wall in Jean Charlot, 'A XII Century

Mayan Mural', *Magazine of Art*, xxxI (1938), no. 11, 624-9 and 670.

- p. 203 52. A similar scene of sacrifice by heart excision appeared near the cella doorway of the Temple of the Warriors. Morris, Charlot, and Morris, Temple of the Warriors, II, plate 145.
- p. 204 53. Another such battle of warriors attacking an island village with flaming spears adorns the Nunnery at Chichén. Willard, op. cit., opp. 253.
  - 54. Willard, op. cit., 221, probably based upon one of Teobert Maler's drawings.
    - 55. Pacific Art Review, II (1942), nos 1-2.
  - 56. Morris, Charlot, and Morris, op. cit., II, plate 164.
- p. 205
  57. Thomas Gann, 'Mounds in Northern Honduras', 19th Annual Report, Bureau of American Ethnology (Washington, 1900), 655–92. Gann dated the frescoes in the late fourteenth or early fifteenth centuries (676).
  - 58. On the character and significance of plumbate pottery, see A. O. Shepard, *Plumbate* (Washington, 1948).
- p. 206 59. Lothrop, loc. cit. (Note 20), 74-7.
  - 60. S. K. Lothrop, *Tulum* (Washington, 1924), 50–61. Also M. A. Fernández, 'El templo no. 5 de Tulum', *Los Mayas antiguos* (Mexico, 1941), 157–82.
  - 61. On the possibility that painted flakes of plaster, found in an Early Classic tomb at Uaxactún, are the remnants of a book, see R. E. Smith, C.A.A.H., IV (1937), 216.
  - 62. J. E. S. Thompson, Maya Hieroglyphic Writing (Washington, 1950), 23-6. For study of the content, the most accessible edition of the three manuscripts is the outline facsimile of J. A. Villacorta C., Los Códices Mayas (Guatemala, 1930). Study of draughtsmanship and technique are best made with the photographic facsimiles: E. Förstemann, Die Maya-Handschrift der königlichen Bibliotek zu Dresden (Leipzig, 1892); Códice Maya denominado Cortesiano, ed. J. de la Rada y Delgado and J. López de Ayala (Madrid, 1892); Manuscrit Troano, ed. C. E. Brasseur de Bourbourg (Paris, 1869-70); Codex Peresianus, ed. L. de Rosny (Paris, 1887). An indispensable aid is the collection of papers by E. Förstemann, P. Schellhas, and A. M. Tozzer, published in P.M.P., IV (1904-10).
- p. 207 63. P. Schellhas, 'Representation of Deities of the Maya Manuscripts', P.M.P., IV (1904–10), 1–47;

- cf. Thompson, Maya Hieroglyphic Writing (Washington, 1950).
- 64. E. Seler, 'Venus Period in the Picture Writ- p. 208 ings of the Borgia Codex Group', B.B.A.E., xxvIII (1904), 355-91.
- 65. Twenty-seven Initial Series dates are recorded in the Dresden manuscript, ranging between 8.6.16.12.0 on p. 70 and 10.19.6.1.8 (A.D. 950) on p. 51. The date of manufacture may well be this latest one, although others, e.g. C. F. Bowditch, preferred 9.9.16.0.0 (A.D. 363) as the date of composition. Spinden, with his customary intuition, very early selected the tenth-century date, and specified western Yucatán, south of Uxmal or in Tabasco, pointing to the similarities with south Mexican manuscripts; 'A Study of Maya Art', P.M.M., VI (1913), 153.

#### CHAPTER 10

- 1. See E. Shook, 'The Present Status of Research p. 209 on the Pre-Classic Horizons in Guatemala', I.C.A., XXIX (1951), 93–100. Also F. B. Richardson, 'Non-Maya Monumental Sculpture of Central America', The Maya and their Neighbors (New York, 1940), 395–416.
- 2. A. L. Smith, Archaeological Reconnaissance in Central Guatemala (Washington, 1955), 75.
- 3. W. Libby, *Science*, CXX (1954), 720. Structure 4 measured 3142 (1188 B.C.)  $\pm$ 240; Structure 5 measured 2490 (536 B.C.)  $\pm$ 300.
- 4. E. M. Shook and A. V. Kidder, 'Mound E-III-3, Kaminaljuyu', C.A.A.H., XI (1952), 33-128, and figure 16b.

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- 5. Cf. Marquina, lám. 21.
- 6. A 7-8 and B 4-5 were built of pumice and mud. Kidder, Shook, and Jennings (op. cit., 95) have placed A 6 and B 3; A 7 and B 4 as coeval. A 8 precedes B 5 by a small interval. They suppose that 'no more than a century, perhaps even as little as fifty years, would cover the entire life of the two mounds'. Lacking at Kaminaljuyú is the figurine production of Teotihuacán; lacking at Teotihuacán are the sumptuous burials of Kaminaljuyú.
- 7. R. B. Woodbury and A. S. Trik, *The Ruins of Zaculeu*, 1 (Richmond, 1953), 284.
  - 8. A. L. Smith, op. cit., 76.
- 9. M. W. Stirling, 'Stone Monuments of Southern Mexico', B.B.A.E., CXXXVIII (1943), 60-74;

- J. E. S. Thompson, 'Some Sculptures from Southeastern Quezaltenango', N.M.A.A.E., I (1943), 100–12; *idem*, 'An Archaeological Reconnaissance in the Cotzumalhuapa Region', C.A.A.H., IX (1948), 1–94.
- p. 212 10. Stelae 2 and 9 are probably of different epochs: 9 is shallow in relief, 2 is deep. Possibly 2 should be classed among the figural compositions, and 9 with the band-reliefs.
  - 11. Stela 21 at Izapa is illustrated by R. Orellana Tapia, *México antiguo*, VIII (1955), 15–68.
  - 12. Classic Maya Sculpture, 177. Also K. A. Dixon, 'Two Masterpieces of Middle American Bone Sculpture', Am.A., XXIV (1958), 53–62.
    - 13. M. W. Stirling, loc. cit., 31, 48.
  - 14. On the sculpture of Kaminaljuyú, see Lothrop, *Indian Notes and Monographs*, III (1926), 147–71. Other stones, recently discovered, are still unpublished. The silhouetted reliefs figured by A. V. Kidder, E. M. Shook, and J. D. Jennings, *Excavations at Kaminaljuyu* (Washington, 1926), figure 141, probably belong to this group and period, although their exact provenance is unknown.
  - 15. Thompson, C.A.A.H., IX (1948), 51. The best illustrations are in S. Habel, Smithsonian Contributions to Knowledge, XXII (1880), 1–90.
  - 16. T. Proskouriakoff, Classic Central Veracruz Sculpture (Washington, 1954).
- p. 213 17. Resemblances to head-effigy vessels of plumbate ware are also notable: compare A. O. Shepard, *Plumbate* (Washington, 1948), figure 18.
- p. 214 18. Kidder, Shook, and Jennings, op. cit., 229-32.
  - 19. A. O. Shepard, *Plumbate*. Also 'Studies in Ancient Soconusco', *Archaeology*, XI (1958), 48–54. The term is misleading but traditional. No lead salts are present. Only the colour seems leaden.
  - 20. R. E. Smith, 'Tohil Plumbate and Classic Maya Polychrome Vessels in the Marquez Collection', N.M.A.A.E., no. 129, v (1954-7), 117-30.
  - 21. The most complete survey of Central American archaeology is volume IV of the *Handbook of South American Indians*, edited by Julian Steward and entitled 'The Circum-Caribbean Tribes', *B.B.A.E.*, CXLIII (1948).
- p. 215
  22. Doris Stone, 'The Basic Cultures of Central America', H.S.A.I., v, 169-93. Also F. B. Richardson, 'Non-Maya Monumental Sculpture of Central America', The Maya and their Neighbors,

- 395-416, and Doris Stone, Introduction to the Archaeology of Costa Rica (San José, 1958).
- 23. H. J. Spinden, 'The Chorotegan Culture Area', I.C.A., XXI (1924), 529–45, believed the eastern types were derived from the Ulua vessels, but Doris Stone, 'Masters in Marble', M.A.R.S., Publ. 8, holds the opposite. See also Doris Stone, 'Archaeology of the North Coast of the Honduras', P.M.M., IX (1941), 25, and S. Borhegyi, 'Travertine Vase in the Guatemala National Museum', Am.A., XVII (1952), 254–6.
- 24. On the meagre history of the extinct Guetar p. 216 people, see S. K. Lothrop, *Pottery of Costa Rica and Nicaragua*, I (New York, 1926), 15–16.
- 25. Science, CXXVII (1958), no. 3290, 136. Sculpture from Las Pacayas on Mount Irazú is figured by J. A. Mason, Costa Rican Stonework (A.M.N.H.A.P., XXXIX) (New York, 1945).
  - 26. J. A. Mason, Costa Rican Stonework, 293-301.
- 27. Jorge A. Lines, Los altares de Toyopan (San José, 1935).
- 28. C. V. Hartman, 'Archaeological Researches p. 217 on the Pacific Coast of Costa Rica', Memoirs of the Carnegie Museum, III (1907), 1–188.
- 29. The mainland jaguar metates extend into western Panamá. See S. K. Lothrop, 'Archaeology of Southern Veraguas, Panama', P.M.M., IX (1950), 27–31.
  - 30. Lothrop, Pottery, 116.
  - 31. Ibid., 173-7 and plate LXVIIIb.
  - 32. E.g. Lothrop, Pottery, plate XXVI.
- 33. Guápiles jades are best described by S. K. p. 218 Lothrop, *Pre-Columbian Art* (New York, 1957), 30–1, and 'Jade and String Sawing in Northeastern Costa Rica', *Am.A.*, XXI (1955), 43–51. C. V. Hartman, *loc. cit.*, plates XXXII–XLV, illustrates many jades from the cemeteries at Los Guacas and other sites of the Peninsula.
- 34. Doris Stone, H.S.A.I., 19, 190, favours the Central American thesis; F. B. Richardson, in *The Maya and their Neighbors*, 415, favours South American origins. H. J. Spinden, *Maya Art and Civilization* (Indian Hills, 1957), 341-4, enumerates the Mexican antecedents of the 'Chorotegan' people; also Lothrop, *Pottery*, 91-4.
- 35. On alter ego figures, E. Nordenskiöld, Origin of the Indian Civilizations of South America (Göteborg, 1931).

#### NOTES TO PART TWO

- 36. Chontales figures are discussed by F. B. Richardson, op. cit., 412–16. The late statues are reproduced by E. G. Squier, Nicaragua (New York, 1852), and by Carl Bovallius, Nicaraguan Antiquities (Stockholm, 1886).
- 37. Carl Bovallius, who discovered the statue, described it as a crocodile.

Nicoya mace-heads are illustrated by C. V. Hartman, *loc. cit.*, plates xxv-xxxi. Both *alter ego* figures and stone mace-heads have South American antecedents. A. Kidder II, 'South American Penetrations in Middle America', *The Maya and Their Neighbors*, 431-41.

38. F. Boyle, 'The Ancient Tombs of Nicara-

- gua', Archaeological Journal, XXIII (1866), 41-50; J. F. Bransford, 'Archaeological Researches in Nicaragua', Smithsonian Contributions to Knowledge, XXV (1881). Stone grave-markers like these occur near San Agustín in Colombia (see p. 227).
- 39. Concise review by S. K. Lothrop, 'The Archaeology of Panama', H.S.A.I., IV (1948), 143–67. In more detail, G. G. MacCurdy, 'A Study of Chiriquian Antiquities', Memoirs of the Connecticut Academy of Arts and Sciences, III (1911).
- 40. S. K. Lothrop, 'Archaeology of Southern p. 219 Veraguas', P.M.M., IX (1950), 27-30.
- 41. S. K. Lothrop, 'Coclé', *P.M.M.*, vп (1937), vm (1942).

# NOTES TO PART THREE

### CHAPTER II

- p. 223
  I. The best introduction to the archaeology is by W. C. Bennett and J. Bird, Andean Culture History (New York, 1949). Also fundamental is the exhibition catalogue by W. C. Bennett, Ancient Arts of the Andes (New York, 1954), describing the display at the Museum of Modern Art.
- p. 224 2. Bennett and Bird, A.C.H., 95-244. The most recent exposition of this system is by G. Willey and P. Phillips, Method and Theory in American Archaeology (Chicago, 1958).
  - 3. C. Osgood and G. D. Howard, An Archaeological Survey of Venezuela (New Haven, 1943).
- p. 226 4. W. C. Bennett, 'Archaeology of Colombia', H.S.A.I., п, 823-62.
  - 5. J. Alden Mason, 'Archaeology of Santa Marta, Colombia. The Tairona Culture', F.M.N.H.A.S., xx (1931-9).
  - 6. The 'Chibcha' tribes near Bogotá are sometimes called Muisca, to avoid confusing the tribe with the linguistic stock. J. Pérez de Barradas, Colombia de Norte a Sur (Madrid, 1943).
  - 7. H.S.A.I., II, 830; also Archaeological Regions of Colombia: A Ceramic Survey (New Haven, 1944), 109-13.
  - 8. J. Pérez de Barradas, Arqueología y antropología precolombinas de Tierra Dentro (Bogotá, 1937). Presented as a chronological sequence spanning the ninth to twelfth centuries A.D., this arrangement is merely typological, without conclusive evidence as to time.
  - 9. Gregorio Hernández de Alba, 'The Archeology of San Agustín and Tierradentro, Colombia', H.S.A.I., II, 851-9.
  - 10. Extended description in G. Hernández de Alba, Revista de las Indias, II (1938), no. 9, 10.
- p. 227 II. W. Krickeberg, Felsplastik und Felsbilder bei den Kulturvölkern Altamerikas (Berlin, 1949), 38-9.
  - 12. K. T. Preuss, Monumentale vorgeschichtliche Kunst (Göttingen, 1929); J. Pérez de Barradas, Arqueología agustiniana (Bogotá, 1943).
    - 13. Pérez de Barradas, op. cit., 148.
- p. 228 14. Pérez de Barradas, loc. cit.

- 15. Extended discussion of these parallels in Preuss, op. cit., 108–16.
- 16. The best technical discussion is by W. C. Root, H.S.A.I., v, 205–25, placing Colombian work in relation to the rest of America. For Colombia proper J. Pérez de Barradas, La orfebrería prehispánica de Colombia. Estilo Calima (Madrid, 1954). P. Rivet and H. Arsandaux, La métallurgie en Amérique précolombienne (Paris, 1946), 176, supposed that Colombian techniques came from lowland South America, on linguistic rather than archaeological evidence. This work is a handbook of the subject.
- 17. Legs of a figurine in *tumbaga* of Veraguas type. Illustrated by G. Stromsvik, C.A.A.H., vII (1942), no. 37, figure 14.
- 18. H. Trimborn, Señorío y barbarie en el valle del p. 229 Cauca (Madrid, 1949), 174 f.
- 19. Orfebrería prehispánica de Colombia, 301. See also Enzo Carli, Pre-Columbian Goldsmiths' Work of Colombia (London, 1957).
  - 20. S. K. Lothrop, H.S.A.I., IV, 159.
- 21. S. K. Lothrop, *Pre-Columbian Art* (New York, 1957), 271, calls it Conto style, from the earlier name of the town near which the graves occur. Today the town is called Restrepo.
- 22. The magnificent volumes of text and plates by J. Pérez de Barradas, op. cit., illustrate the entire subject. Barradas inclines to the view that Oceanic tiki figures played a part in the formation of Calima style (pp. 319–20).
  - 23. Op. cit., 321.
- 24. G. Hernández de Alba, Colombia, Compendio arqueológico (Bogotá, 1938), 51-3, wrote of the style of the left bank of the Atrato as 'Chiriquí' and of the right bank as Darién. The confusion with eastern Central America is obvious. 'Atrato style' would be preferable. The term 'Chiriquí' was first used by V. Restrepo (Los Chibchas antes de la Conquista, Bogotá, 1895).
- 25. Lothrop, 'Metals from the Cenote of Sacri- p. 230 fice', P.M.M., x (1952), no. 2, figure 88, p. 95.
  - 26. P. Rivet and H. Arsandaux, op. cit., 25.
  - 27. Orfebrería, 298.

- 28. G. Hernández de Alba, El Museo del oro (Bogotá, 1948), lámina 89.
  - 29. W. C. Root, H.S.A.I., v, 211.
  - 30. Lothrop, 'Coclé', P.M.M., VII (1937), 204.
- 31. Illustrated by H. Lavachéry, Les arts anciens d'Amérique au Musée archéologique de Madrid (Antwerp, 1929), 78–99.
- 32. The process has been reconstructed in detail by Dudley T. Easby, Jr, *University Museum Bulletin*, xx (1956), no. 3, 3-16.
- 33. A. Basler and E. Brummer, *L'art précolombien* (Paris, 1928), 39.
- p. 231 34. Illustrated in W. C. Bennett, Archaeological Regions of Colombia: A Ceramic Survey (New Haven, 1944), especially plate 10 F.
  - 35. I. Large-headed statuettes.
  - 1. University Museum, Philadelphia (\$A2752). Seated aged woman.
  - 2. University Museum, Philadelphia (SA 2751). Seated woman.
  - 3. Museum für Völkerkunde, Berlin. Seated man.
  - 4. Museum für Völkerkunde, Berlin. Standing man.
  - Museum für Völkerkunde, Berlin. Seated figure, bearing horizontal staff in both hands, from Manizales.

#### II. Small-headed statuettes.

- 1. Museo Arqueológico, Madrid. Seated fat woman.
- 2. Museo Arqueológico, Madrid. Seated man on stool.
- 3. Museo Arqueológico, Madrid. Seated woman bearing double scrolls.
- 4. Museo Arqueológico, Madrid. Standing man clasping double scrolls.
- 5. Museo Arqueológico, Madrid. Standing, empty-handed man.
- 6. Bogotá, Museo del Oro. Standing man (fragment), from Zamarraya in the Choco region.

The Berlin figures are illustrated by W. Krickeberg, Atlantis (1931), and the Madrid ones by H. Lavachéry, op. cit. The Philadelphia pieces are both illustrated in D. T. Easby, Jr., loc. cit.

- 36. E. Restrepo Tirado, Los Quimbayas (Bogotá, 1912), 12-15.
  - 37. Comprehensive review of the history of the

tribes by A. L. Kroeber, 'The Chibcha', H.S.A.I., II, 887-910.

- 38. J. C. Cubillos, Tumaco (Bogotá, 1955), gives p. 232 the most complete account of the Colombian sector. See also H. Nachtigall, B.A., N.F. III (1955), 97-121. J. H. Rowe, Archaeology, 11 (1949), 31-4, labels the region Atacames in order to include Esmeraldas and Tumaco. The pottery from the tropical Esmeraldas coast is best studied in R. d'Harcourt, J.S.A., XXXIV (1942-7), 61-200. M. H. Saville, Antiquities of Manabi (New York, 1907-10), treats the forested coast south of the Equator. G. H. S. Bushnell, Archaeology of the Santa Elena Peninsula (Cambridge, 1951), has excavated the arid country west of Guayaquil. R. d'Harcourt, J.S.A., xxxvII (1948), 323, first asserted the unity of the stylistic area between Tumaco and Guayas. M. D. Coe's recent excavations in Guatemala confirm Spinden's 1917 thesis of early diffusion between Middle and South America; 'Archaeological Linkages with North and South America at La Victoria, Guatemala', A.A., LXII (1960), 363-93.
- 39. J. M. Corbett, 'Some Unusual Ceramics from Esmeraldas', Am.A., XIX (1953-4), 145-52.
- 40. H. Lehmann, 'Le personnage couché sur le dos', I.C.A., XXIX (1951), 291-8 (in vol. entitled 'The Civilizations of Ancient America'). Also Am.A., XIX (1953-4), 78-80.
- 41. 'Las civilizaciones del sur de Centro América y el noroeste de Sud América', *I.C.A.*, XXIX (1952), 165-72 ('The Civilizations of Ancient America').
- 42. Saville, Antiquities, I, plate II, 4; II, plates LXXXV, LXXXVIII, 3/4; LXXXIX, 4, 5; CX, 6, 9. R. d'Harcourt, J.S.A., XXXIV (1942-7), plate XIX, 2, 4.
- 43. J. C. Cubillos, in *Tumaco*, dates them in the same epoch as Upper Tres Zapotes. On Formative Period pottery in Coastal Ecuador, see C. Evans and B. J. Meggers, *Am.A.*, XXII (1951), 235-47.
- 44. G. H. S. Bushnell, 'The Stone Carvings of Manabi', I.C.A., xxx (1952), 58-9.
  - 45. Antiquities, II, figure 17, p. 147.
- 46. Illustrated by Saville, Antiquities, I, plate LI, 4. p. 233 C. Evans and B. J. Meggers have recently found figurines of 2500–2000 B.C. near Guayaquil; 'Valdivia', Archaeology, XI (1958), 175–82.
- 47. J. Jijón y Caamaño, *Puruhá* (Quito, 1927). D. Collier, *H.S.A.I.*, п, 783, believes this chronology needs contraction.
- 48. 'Peruvian Stylistic Influences in Ecuador', M.S.A.A., IV (1948), 80-2.

#### CHAPTER 12

- p. 234 I. W. C. Bennett, 'The Peruvian Co-Tradition', M.S.A.A., IV (1948), 1-7.
  - 2. R. Larco Hoyle, 'La escritura peruana preincana', México antiguo, VI (1944), 219-38.
  - The term Mochica refers to the speakers of a language that was centred between the Leche and Chicama valleys.
- p. 235

  4. M. N. Porter, Tlatilco (New York, 1953).

  J. C. Tello, Antiguo Perú (Lima, 1929), championed the thesis of highland priority. J. Bird demonstrated that Chavín-style pottery and maize abruptly appeared together in the Virú Valley at Guañape ('Preceramic Cultures in Chicama and Virú', M.S.A.A., IV (1948), 21-8).
  - 5. J. Bird, 'South American Radiocarbon Dates', M.S.A.A., viii (1951), 37-49.
  - 6. G. Willey, 'Prehistoric Settlement Patterns in the Virú Valley', B.B.A.E., CLV (1953), 38-42; W. D. Strong, M.S.A.A., XIII (1957), 10.
  - 7. Donald Collier, 'Cultural Chronology and Change', Fieldiana: Anthropology, XLIII (1955).
- p. 236 8. The most elaborate example is by R. Carrión Cachot, 'La cultura Chavín', R.M.N.A.A., п (1948).
  - 9. 'The Chavín Problem: A Review and Critique', Southwestern Journal of Anthropology, VII (1951), 103-44.
    - 10. M. N. Porter, Tlatilco, 71-9.
    - 11. J. Bird, M.S.A.A., VIII (1951), 40-1.
  - 12. First stated by A. L. Kroeber in 1926; restated *V.F.P.A.*, IV (1944), 86, and independently reworked by J. C. Muelle, *B.A.*, XXVIII (1955), 89–96, who also made an earlier analysis of Nazca traits in Chavín sculpture (*R.M.N.L.*, VI (1937), 135–50).
  - 13. R. Carrión Cachot, loc. cit., 65-74 (Ancón); A. L. Kroeber, 'Paracas Cavernas and Chavin', U.C.P.A.A.E., XL (1953), 313-48.
- p. 237 14. S. K. Lothrop, 'Gold Artifacts of Chavin Style', Am.A., xvi (1950–1), 226–40.
  - 15. R. Larco Hoyle, Los Mochicas, I (Lima, 1938), 36; idem, Los Cupisniques (Lima, 1941), 8. Contrast J. C. Tello, Arqueología del valle de Casma (Lima, 1956), 14-20.
  - 16. W. D. Strong and C. Evans, Jr, Cultural Stratigraphy in the Virú Valley (New York, 1952), 231. G. Willey, in his review of the problem (Southwestern Journal of Anthropology, VII (1951), 131), also

favoured this interpretation, while rejecting the Chavín affinities of Sechín sculpture.

- 17. J. C. Tello, op. cit.
- p. 238
- 18. Discussion in R. Larco, Los Cupisniques, 116- p. 239 23. Also A. L. Kroeber, Peruvian Archeology in 1942, V.F.P.A., IV (1944), 139-40.
- 19. Pre-Columbian Art, plate CXX, no. 297, and p. 240 Tello, Antiguo Perú, figure 112. Another such bridge is the carved conch shell from Chiclayo, illustrated by Larco, Los Cupisniques, figure 174: among interlaced serpents and feline profiles a standing man blows a conch-shell trumpet, wearing a curved-stripe eye decoration. (Also Tello, El strombus en el arte Chavin, Lima, 1937.)
- 20. Tello's plan (our Figure 83) is only approximate. It does not correspond to his descriptions, because of the chaotic state of the upper portions.
- 21. Tello describes Head V as a 'dios felino- p. 241 morfo', but his illustrations convey nothing of this description.
- 22. Best illustrations (plan and sections) in R. Larco Hoyle, Los Mochicas, I, figures 18-23: the Chavín-style painting is figured by Tello, Sobre el descubrimiento de la cultura Chavín (Lima, 1944), plate III.
- 23. Maxcanú in Yucatán was described by J. L. p. 242 Stephens, *Incidents of Travel in Yucatan*, 1 (New York, 1848), 214.
- 24. Best description and rough sketch plan by W. C. Bennett, 'The North Highlands of Peru. Excavations in the Callejón de Huaylas and at Chavín de Huántar', A.M.N.H.A.P., XXXIX (1944), 71–92. Also R. Carrión Cachot, 'La cultura Chavín', R.M.N.A.A., II (1948), 12–14, and C. Roosevelt, 'Ancient Civilizations of the Santa Valley and Chavín', Geographical Review, XXV (1935), 36–42. The posthumous work by J. C. Tello, published in 1960, Chavin, Cultura matrix de la civilización ardina, is the most complete account available. The writer regrets that the volume was not distributed until after these pages were in proof.
- 25. A. L. Kroeber, 'Ancient Pottery from Trup. 243 jillo', F.M.N.H.A.M., π (1926), no. 1, 36–7, divided sculpture at Chavín into M and N phases. N refers to Nazca affinities, and M to Maya. Kroeber later proposed five stylistic groups (Peruvian Archeology in 1942, 88–9) of incised slabs, without pressing any chronological sequence, and omitting references to Maya sculpture. The Nazca connexions of the Raimondi Monolith were recently restated by J. C.

Muelle, 'Del estilo Chavín', B.A., N.F. III (1957), 89-96.

- p. 244 26. J. C. Muelle, 'Filogenía de la estela Raimondi', R.M.N.L., vI (1937), 135–50, connected this relief with the Late Nazca style.
  - 27. The best descriptions are by Tello, 'Discovery of the Chavín Culture in Peru', Am.A., IX (1941–2), 136–7, and Orígen y desarrollo de las civilizaciones prehistoricas andinas (I.C.A., XXVII, Lima) (Lima, 1942), 114–16. R. Larco Hoyle proposed the Nepeña Valley as the origin of all Chavín manifestations. He placed Punkurí coeval with Sechín, and prior to Cerro Blanco, which, with Chavín de Huántar, he regarded as contemporary with fully developed Mochica style (Los Cupisniques, 8–9).
  - 28. G. Willey, 'A Functional Analysis of "Horizon Styles" in Peruvian Archaeology', M.S.A.A., IV (1948), 8–15.
- p. 245 29. Bennett, A.M.N.H.A.P., XXXIX (1944), 98-9.
  - 30. Willey, loc. cit., 11.
  - 31. The best account of Recuay archaeology is by W. C. Bennett, 'The North Highlands of Peru', A.M.N.H.A.P., XXXIX (1944), 99–106.
  - 32. Cf. the Figure in this volume with a Recuay vessel in Berlin, published by E. Seler in *Peruanische Alterthümer* (Berlin, 1893), plate 44, centre row, right end. On supposed parallels with Nicoya pottery from Costa Rica, W. Krickeberg, *Festschrift Schmidt* (Vienna, 1928), 381. He proposes a common origin in Colombia for both Nicoya and Recuay styles.
  - 33. Bennett, Ancient Arts of the Andes (New York, 1953), 141, and figure 159-60.
- p. 246 34. Kroeber, F.M.N.H.A.M., II (1926), no. 1, 36.
  - 35. Seler, op. cit., plate 43, bottom row; plate 44, centre right.
  - 36. Tello, Antiguo Perú, 36-46. The Macedo Collection is illustrated in Max Schmidt, Kunst und Kultur von Peru (Berlin, 1929), 231-42.
  - 37. H. Disselhoff discusses a Mochica vessel painted with battle-scenes between Mochica warriors and foreigners whom he identifies as Recuay tribesmen by their slings, shields, and head-dresses decorated with hands; 'Hand und Kopftrophäen in plastischen Darstellungen der Recuay-Keramik', B.A., N.F. IV (1955), 25-32.
  - 38. R. Schaedel, 'Stone Sculpture in the Callejón de Huaylas', M.S.A.A., IV (1948), 66–79.

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## CHAPTER 13

- 1. The most recent major work on Mochica and p. 247 pre-Mochica archaeology is by W. D. Strong and Clifford Evans, Jr, 'Cultural Stratigraphy in the Virú Valley, Northern Peru, The Formative and Florescent Epochs', C.S.A.E., IV (1952). For Chimu dynastic history, J. H. Rowe, 'The Kingdom of Chimor', Acta Americana, VI (1948), 26–59.
- 2. My estimate, based upon stratified guano accumulations in the Chincha Islands, extended Mochica duration into the ninth century A.D. (Kubler, 'Towards Absolute Time: Guano Archaeology', M.S.A.A., IV (1948), 29–50).
- 3. R. Larco Hoyle, Los Mochicas (Lima, 1938), 1, p. 248 20, and map between pp. 56–7, and Cronología arqueológica del norte del Perú (Buenos Aires-Chiclin, 1948), 15–24. The best account is by W. Bennett, in A.M.N.H.A.P., XXXVII (1941), 90–3.
- 4. The only intact graves were in the Chicama Valley near Sausal; Larco, Los Cupisniques (Lima, 1941), 177-242.
  - 5. Cronología, 15-24.
- 6. H. Ubbelohde-Doering, 'Ceramic Comparisons of Two North Coast Peruvian Valleys', *I.C.A.*, XXIX (1951) ('Civilizations of Ancient America'), 224–31, encountered comparable juxtapositions in the graves of the Jequetepeque Valley. His 'Chavín' examples look more Mochica than Chavín.
  - 7. Los Cupisniques, 34.

- p. 249
- 8. Larco's new classification in 1948 (*Cronologia*, 15-20) alters these groups slightly: his 'early Cupisnique' includes A and D vessels; 'Transitorio' has B and C shapes; 'Santa Ana' has B and D. It is less plausible than the 1941 grouping by stirrup and vent forms.
- 9. R. Larco Hoyle, *Cultura Salinar* (Buenos Aires, 1944). Detailed discussion of other coastal occurrences of Salinar style in Strong and Evans, *C.S.A.E.*, IV (1952), 237–9.
  - 10. Strong and Evans, ibid., 237-40.
- p. 250
- 11. W. C. Bennett, The Gallinazo Group, Virú Valley, Peru (New Haven, 1950); Strong and Evans, loc. cit., and figures 57-60.
- 12. J. A. Bennyhoff, 'The Virú Valley Sequence: p. 251 A Critical Review', Am.A., XVII (1952), 231-49, criticizes the authors of the Virú project for interpreting sequence where coexistence is equally tenable.

- p. 251
  13. Mochica refers to a language once spoken in the Chicama Valley; in Trujillo, the Quingnam dialect was spoken. Some prefer to call the civilization Moche, after its principal ceremonial centre in the Trujillo Valley; J. H. Rowe, *loc. cit.* (Note 1). Other recent names for the civilization, now disused, are Early Chimu and Proto-Chimu.
  - 14. P. Kosok, 'The Role of Irrigation in Ancient Peru', Proceedings of the Eighth American Scientific Congress (Washington, 1940), II, 169–78; D. Collier, in Irrigation Civilizations: A Comprehensive Study (Social Science Monographs, 1) (Washington, Pan-American Union, 1955), 19–27.
  - 15. G. Willey, 'Prehistoric Settlement Patterns', B.B.A.E., CLV (1953), 394-5.
  - 16. W. D. Strong, 'Paracas, Nazca, and Tiahuanacoid Cultural Relationships in South Coastal Peru', M.S.A.A., XIII (1957).
  - 17. Los Mochicas, 2 vols (Lima, 1939), and Cronología arqueológica (Buenos Aires-Chiclin, 1948). In 1946 Larco considered that the last half of Mochica history witnessed an expansion north and south from the ancestral home of the style in the Chicama and Trujillo Valleys. J. H. Rowe verified Larco's I-V sequence in the Uhle Collection from Moche (Handbook of Latin American Studies, XVI (1950), 29) and found it acceptable. It is also acceptable in principle, although 'too finely drawn', to W. D. Strong and C. Evans, C.S.A.E., IV (1952).
- p. 252

  18. Strong and Evans, loc. cit., 220. Contrast H. Ubbelohde-Doering, 'Untersuchungen zur Baukunst der nordperuanischen Küstentäler', B.A., xxvi (1952), 23–47, who proposed reed-marked bricks as Mochica and smooth bricks as post-Mochica. This paper was written in 1938 and published without revision.
  - 19. G. Willey, 'Prehistoric Settlement Patterns', B.B.A.E., CLV (1953), 205-10.
  - 20. M. Uhle, 'Die Ruinen von Moche', J.S.A., x (1913), 108-9; A. L. Kroeber, 'The Uhle Pottery Collections from Moche', U.C.P.A.A.E., xx1 (1925), 191-234.
  - 21. On Pacatnamú, H. Ubbelohde-Doering, Aug den Königsstrassen der Inka (Berlin, 1941), 50-6; El Brujo, ibid., plate 325, p. 49.
- p. 253 22. J. Bird, 'South American Radiocarbon Dates', M.S.A.A., VIII (1951), 41-2.
  - 23. A. de la Calancha, *Coronica moralizada* (Barcelona, 1658), 485, reported a tradition that the Sun Pyramid was built in less than three days by 200,000

- workers. Its ruin dates from the seventeenth century. Other pyramid clusters of Mochica date are described by R. Schaedel, 'Major Ceremonial and Population Centers in Northern Peru', *I.C.A.*, XXIX (1951), 232–43.
- 24. R.M.N.L., v (1936), 192, and E. Langlois, La Géographie, LXV (1936), 203-11.
- 25. J. A. Mason, The Ancient Civilizations of Peru p. 254 (London, 1957), 69. Illustrations in Kroeber, Peruvian Archaeology in 1942 (V.F.P.A., IV) (1944), plate 30.
- 26. Illustrated in R. Larco Hoyle, Los Mochicas, 33. Cf. Larco, H.S.A.I., II, 164 n.
- 27. Walls carved in two places, showing rectilinear sting-rays painted in four colours, adorn the Mochica terrace facing at El Brujo in the Chicama Valley. Ubbelohde-Doering, op. cit., plate 325, p. 49.
- 28. J. C. Muelle, 'Lo táctil como carácter fundamental en la cerámica muchik', R.M.N.L., II (1933), 67–72.
- 29. J. A. Ford and G. Willey, A.M.N.H.A.P., XLIII (1949), 66.
- 30. Kroeber, U.C.P.A.A.E., XXI (1925), 200-2. p. 256 In the Virú Valley the large number of three-colour vessels (red, white, and black) has been taken to mark a later period in Mochica history than the red-and-white lots at Moche. Strong and Evans, C.S.A.E., IV (1952), 176.
  - 31. Cronología arqueológica, 28-36. Cf. Note 17.
- 32. Strong and Evans, *loc. cit.*, 222-3, have compared the contents of Virú burials No. 5, No. 11, and the Warrior Priest's grave (Huaca de la Cruz) to all Larco's periods. I find the comparisons valid only for Larco's Mochica III and IV. Misprints mar the allusion to Mochica II (III was meant). The Mochica V comparison of simian figures is too generic to be useful. The Mochica I comparison bears upon a red-white-and-black painted double vessel in a technique elsewhere conceded by Strong (*ibid.*, 341) as belonging late rather than early in Mochica time.
- 33. Virú: Strong and Evans, loc. cit., 165; Sor- p. 258 cape: H. Disselhoff, 'Zur Frage eines Mittelchimu-Stiles', Zeitschrift für Ethnologie, LXXI (1939), 129-38. Other examples of the mountain sacrifice are illustrated by A. Baessler, Ancient Peruvian Art, I (Berlin, 1902), plates 92-6. Two carved black-ware examples of Mochica III date are illustrated by Tello, Inca, II (1938), 280.

- 34. Lothrop, 'Gold Artifacts of Chavin Style', Am.A., XVI (1951), 226-40.
- 35. Strong and Ford, *C.S.A.E.*, IV (1952), 153-5, and Kubler, *M.S.A.A.*, IV (1948), 46-9.
- 36. G. Kutscher, Nordperuanische Keramik (Monumenta americana, 1) (Berlin, 1954), contains line-drawings originally prepared for a book by E. Seler in 1904. Kutscher distinguishes only a 'linear style' on spherical vessels, and a 'silhouette style' on flattened spheroids with concavely curved spouts. The doctoral dissertation (unpublished) by C. I. Calkin, Moche Figure-Painted Pottery (Univ. of California, Berkeley, 1953), treats the stylistic development of the human figure.
- p. 259 37. A. L. Kroeber, F.M.N.H.A.M., II (1930), no. 2, 71–2; R. Schaedel, 'Mochica Murals at Pañamarca', Archaeology, IV (1951), no. 3, 145–54. James Ford has discovered similar wall-paintings in niches at the Huaca Fecho on Hacienda Batán Grande in the Lambayeque Valley (verbal communication).
- p. 261 38. Mochica textiles are extremely rare. The most important fragment, from Pacatnamú, represents a house in cross-section, as in Figure 95, and subject to the rectilinear deformations of textile technique. Reproduced by H. Ubbelohde-Doering, Vom Reich der Inka, 345.
- p. 262

  39. J. C. Muelle, 'Chalchalaca', R.M.N.L., v (1936), 65–88. Contrast Kutscher, op. cit., 61–2. For Ai Apaec, see Larco, H.S.A.I., II, 171–3. On the god Si, Kutscher, I.C.A., xxvII (1948), 621–31. Bean-writing: Larco, Revista geográfica americana, xI (1943), 122–3. Fertility races: Kutscher, I.C.A., xxIX (1951), 244–51. General: Kutscher, 'Iconographic Studies as an Aid in the Reconstruction of Early Chimu Civilization', Transactions of the New York Academy of Sciences, N.S. xXII (1950), 194–203.
- p. 263 40. J. H. Rowe, 'Max Uhle, 1856–1944', U.C.P.A.A.E., XLVI (1957), 7–8. The Tiahuanacostyle sherds and figured cloths are illustrated by Max Uhle in 'Die Ruinen von Moche', J.S.A., X (1913), figure 16, and by A. L. Kroeber, U.C.P.A.A.E., XXI (1925), plate 63. R. Larco, Cronología arqueológica, 37–49, identifies this style as radiating from Wari near Ayacucho, with upper (A) and lower (B) north coast phases, which he regards as a chronological sequence, complicated by other local (Lambayeque) and intrusive (Cajamarca) pottery styles. See L. M. Stumer, 'Coastal Tiahuanacoid Styles', Am.A., XXII (1956), 62.

- 41. Bennett, H.S.A.I., II, 122-3, gives a census of coastal Tiahuanaco finds, enumerating only the Virú, Moche, and Chicama Valleys on the north coast.
- 42. Ford and Willey, 'Surface Survey of the Viru Valley', A.M.N.H.A.P., XLIII (1949), 66–9. The cursive style probably reflects north highland influences (Recuay and Cajamarca).
- 43. G. Willey, 'Prehistoric Settlement Patterns in the Virú Valley', B.B.A.E., CLV (1953), 353-4. P. Kosok, 'Transport in Peru', I.C.A., xxx (1952), 65-71, believes the inter-valley roads were built under Mochica rule.
- 44. R. P. Schaedel, 'The Lost Cities of Peru', p. 264 Scientific American, CLXXXV (1951), no. 2, 18–23; idem, 'Major Ceremonial and Population Centers in Northern Peru', I.C.A., XXIX (1951), 232–43; A. L. Kroeber, F.M.N.H.A.M., II (1930), no. 2, 94. Schaedel's dating is typological rather than stratigraphic.
- 45. R. P. Schaedel, Archaeology, II (1949), 73-5; p. 265 IV (1951), 16-22. H. Horkheimer, Vistas arqueológicas (Trujillo, 1944), 70, calls it the Centipede Huaca. Neither name is justified by the figures, which are probably killer-whale stylizations (see p. 291).
  - 46. H. Horkheimer, op. cit., 41.
- 47. The texts are also evaluated by J. Rowe, 'The Kingdom of Chimor', *Acta Americana*, vi (1948), 37–9. Rowe believes that the Naymlap story is 'pure legend' and of 'late origin', in spite of an independent and confirmatory version written in 1718 by J. M. Rubiños y Andrade; *Revista histórica*, x (1936).
- 48. R. Vargas Ugarte, 'Los Mochicas y el Cacicazgo de Lambayeque', *I.C.A.*, xxvII (1942), II, 475–82.
- 49. P. A. Means, Ancient Civilizations of the Andes (New York, 1931), 51-5, assuming a long interval after Fempellec, related the Naymlap story to Mochica culture.
- 50. Luis Valcárcel, The Latest Archaeological Discoveries in Peru (Lima, 1948), 27–31, and R.M.N.L., VI (1937), 164. The example we illustrate is 43.5 cm. (17½ ins.) high. According to Cabello, the name Lambayeque means 'image of Naymlap'. G. Antze, 'Metallarbeiten aus dem nördlichen Peru', Mitteilungen aus dem Museum für Völkerkunde in Hamburg, XV (1930), illustrates the Brüning Collection, now in Hamburg, all from the same region in

- Lambayeque as the knives discussed above (Batán Grande near Illimo).
- p. 266 51. R. Carrión Cachot, 'La luna y su personificación ornitomorfa en el arte Chimu', *I.C.A.*, xxvII (1942), I, 571–87.
  - 52. Kroeber, F.M.N.H.A.M., II (1926), 28; Bennett, A.M.N.H.A.P., XXXVII (1939), 101. Examples from Ancón to Piura are reported.
  - 53. Text in R. Vargas Ugarte, 'La fecha de la fundación de Trujillo', *Revista histórica*, x (1936), 229–39, and J. Rowe, *loc. cit.* (Note 47), 28–30 (English translation).
  - 54. A. de la Calancha, Coronica moralizada (Barcelona, 1658), 550. The best narrative account of Chanchan is still that by E. G. Squier, Peru (New York, 1877), chapters VI-VII. See also Otto Holstein, 'Chan-Chan: Capital of the Great Chimu', Geographical Review, XVII (1927), 36-61.
- p. 267 55. The best plan, by Emilio González García, published in *Chimor*, 1 (1953), 26, and reproduced here as Figure 97, should be consulted, together with the plan drawn before 1790 for Bishop Martínez de Compañón (*Trujillo del Perú*, ed. J. Domínguez Bordona, Madrid, 1936, plate LXXXI). In the plan the compounds are recognized as palaces, and the intervening areas are marked as covered with houses.
- p. 271 56. The Tschudi enclosure measures 1600 by 1100 feet (Squier's measurements). All students of Chanchan have reported the presence of many slag-spattered portions of the ruins where metallurgical furnaces probably functioned (e.g. Squier, Peru, 164).
  - 57. Acta Americana, VI (1948), 45-6.
  - 58. Willey, 'Prehistoric Settlement Patterns', B.B.A.E., CLV (1953), 416–17. H. Ubbelohde-Doering, op. cit. (Note 21), renamed the ruin called La Barranca (Kroeber, F.M.N.H.A.M., II (1930), 88–9) as Pacatnamú, the city which Calancha (Coronica moralizada, 547) called a Chimu colony. Another such Chimu colony may be the Purgatorio ruin on the Leche river near Tucume (Kroeber, loc. cit., 93–4). Schaedel, I.C.A., XXIX (1951), 238–9, identified Apurle (Motupe R.) and Farfán (Jequetepeque) as other 'urban elite' centres of main importance in the Chimu state.
- p. 272 59. Bird, in Strong and Evans, C.S.A.E., IV (1952), 359, reported that twills first appeared in the Gallinazo period, and became more common (28.4 per cent, Huancaco period) in Mochica times.

- 60. A. Baessler, Altperuanische Metallgeräte (Berlin, 1906). An excellent cross-section of Peruvian metalwork is reproduced in Max Schmidt, Kunst und Kultur von Peru (Berlin, 1929), plates 367–409. J. C. Tello once remarked in a newspaper article (El Comercio, Lima, 29 January 1937, 5) that 75 per cent of all known Peruvian pre-Conquest gold in the museums of the world comes from the vicinity of Tucume (Leche river), rather than from Trujillo or Chicama.
- 61. J. C. Muelle, 'Concerning the Middle Chimu Style', U.C.P.A.A.E., XXXIX (1941), 203-22.
- 62. L. M. O'Neale and A. L. Kroeber, 'Textile Periods in Ancient Peru', *U.C.P.A.A.E.*, xxvIII (1930–1), 23–56.
- 63. H. and P. Reichlen, 'Recherches archéo- p. 273 logiques dans les Andes de Cajamarca', J.S.A., xxxvIII (1949), 137-74.
- 64. H. H. Urteaga, El fin de un imperio (Lima, 1933). Also J. C. Tello, 'La ciudad inkaica de Cajamarca', Chaski, I (1941), no. 3, 2–7.
- 65. T. D. McCown, 'Pre-Incaic Huamachuco', p. 275 U.C.P.A.A.E., XXXIX (1945), no. 4.
- 66. A. L. Kroeber, 'A Local Style of Lifelike Sculptured Stone Heads in Ancient Peru', Festschrift R. Thurnwald (Berlin, 1950), 195–8.
  - 67. McCown, loc. cit., 341.
  - 68. Rowe, Am.A., XXII (1956), 149.

#### CHAPTER 14

- 1. L. M. Stumer, 'The Chillón Valley of Peru', p. 276

  Archaeology, VII (1954), 172.
- 2. R. d'Harcourt, 'La céramique de Cajamarquilla-Nievería', J.S.A., XIV (1922), 107-18.
- 3. E. E. Tabío, Excavaciones en Playa Grande (Lima, 1955), 33 (mimeograph prepared for Museo Nacional de Antropología e Historia).
- 4. Ancón: R. Carrión Cachot, 'La cultura Chavin', R.M.N.A.A., II (1948), 97–172; Supe: G. Willey and J. M. Corbett, 'Early Ancon and Early Supe Culture', C.S.A.E., III (1954). Also G. Willey, 'The Chavin Problem', Southwestern Journal of Anthropology, VII (1951), 119–21.
- 5. The main burial ground at Ancón is much p. 277 later (W. Reiss and A. Stübel, *The Necropolis of Ancón*, 3 vols, Berlin, 1880-7), and finds from it fill the museums of Europe and America.

- 6. L. M. Stumer, loc. cit., 171-8, 220-8; also Scientific American, CXCII (1955), 98-104.
- 7. J. Jijón y Caamaño, Maranga (Quito, 1949); A. L. Kroeber, 'Proto-Lima', Fieldiana: Anthropology, XLIV (1955).
- 8. L. M. Stumer, 'Population Centers of the Rimac Valley of Peru', Am.A., xx (1954), 130-48.
- 9. A. H. Gayton, 'The Uhle Collections from Nievería', U.C.P.A.A.E., XXI (1924), 305–29; also R. d'Harcourt, J.S.A., XIV (1922). The site is described in detail by P. E. Villar Córdova, Las culturas prehispánicas del departamento de Lima (Lima, 1935).
- P. 278

  10. S. K. Lothrop and Joy Mahler, 'A Chancay-Style Grave at Zapallan, Peru', P.M.P., L (1957), discovered that several varieties of Chancay pottery, originally listed as a chronological sequence by Kroeber (U.C.P.A.A.E., XXI (1926), 265–304), are actually contemporaneous.
  - 11. P. E. Villar Córdova, 'Las ruinas de la provincia de Canta', Inca, I (1923), I-23; I.C.A., XXIII (1928), 351-82; and Culturas prehispánicas del departamento de Lima, 289-332. See also A. Rossel Castro, Chaski, I (1941), no. 3, 59-63; A. L. Smith, 'The Corbelled Arch', The Maya and their Neighbors (New York, 1940), 202-21.
  - 12. W. C. Bennett, A.M.N.H.A.P., XXXIX (1944), 14-53.
  - 13. M. Uhle, *Pachacamac* (Philadelphia, 1903); W. D. Strong, G. Willey, and J. M. Corbett, *Archeological Studies in Peru*, 1941–1942, *C.S.A.E.*, 1 (1943).
- p. 279
  14. Tello merely reported Chavin-style sherds at the Nunnery of Pachacamac, without further details of place or association; Chaski, I (1940), no. 2, I.
- p. 281 15. Historia del Nuevo Mundo, ed. M. Jiménez de la Espada, IV (Seville, 1893), 47–54.
  - 16. Cobo mentions six stages, and Uhle only five, but Cobo included a low basal platform which Uhle did not rank as a stage.
  - 17. This arrangement was also described by Jerónimo de Román y Zamora, writing before 1575 (*Republicas del Mundo*, 2nd ed. Salamanca, 1595).
    - 18. C.S.A.E., I (1943), 37.
  - 19. J. C. Muelle and J. R. Wells, 'Las pinturas del templo de Pachacamac', R.M.N.L., VIII (1939), 265-82.

20. Max Schmidt's Kunst und Kultur des alten Peru p. 282 (Berlin, 1929) is illustrated principally with the finds from Pachacamac, like A. Baessler's Altperuanische Metallgeräte (Berlin, 1906).

#### CHAPTER 15

- 1. In the Pisco, Chincha, and Cañete Valleys to p. 283 the north, and in Acari Valley to the south, the traces of early style are progressively fainter as one moves away from the Ica-Nazca group. A. L. Kroeber and W. D. Strong, U.C.P.A.A.E., XXI (1924), I-54, and J. H. Rowe, Am.A., XXII (1956), 137-8. F. Engel, 'Un groupe humain datant de 5000 ans à Paracas, Pérou', J.S.A., XLIX (1960), 7-36, discovered a cemetery and ossuary at Cabezas Largas containing the remains of persons wrapped in fringed mats, who were neither cotton nor pottery at a period established by radiocarbon dating as about 3000 B.C.
  - 2. J. C. Tello, Antiguo Perú (Lima, 1929), 113-49.
- 3. J. Bird, *Paracas Fabrics* (Washington, 1954), p. 284 9–10, preferred to place Necropolis embroideries earlier than Cavernas textiles, dating them in the fourth-third centuries B.C.
- 4. L. M. O'Neale, 'Textiles of the Early Nazca Period', F.M.N.H.A.M., 11 (1937), plates lvi-lix.
- 5. W. D. Strong, 'Paracas, Nazca, and Tiahuanacoid Cultural Relationships in South Coastal Peru', M.S.A.A., xm (1957), 44, 46.
- 6. J. H. Rowe, 'Explorations in Southern Peru', Am.A., XXII (1956), 147.
- 7. A. H. Gayton and A. L. Kroeber, 'The Uhle Pottery Collections from Nazca', *U.C.P.A.A.E.*, xxiv (1927), 1–46, and A. L. Kroeber, 'Toward Definition of the Nazca Style', *U.C.P.A.A.E.*, xLIII (1956), 327–432.
- 8. Science, I November 1957, and S. K. Lothrop and J. Mahler, 'Late Nazca Burials in Chaviña, Peru', P.M.P., L (1957).
- 9. E. Yacovleff and J. C. Muelle, 'Un fardo funerario de Paracas', R.M.N.L., III (1934), 65-6.
  - 10. W. D. Strong, M.S.A.A., XIII (1957).
- II. La Estaquería: best description by A. L. p. 286 Kroeber, Peruvian Archaeology in 1942, V.F.P.A., IV (1944), 26–7. CI4 date, Strong, loc. cit., 34, 46. For the stone piles and pampa-figures, Maria Reiche, Los dibujos gigantescos en el suelo de las pampas de Nasca y Palpa (Lima, [1949]); P. Kosok and M. Reiche, 'Ancient Drawings on the Desert of Peru', Archaeology, II (1949), 206–15. Large, regular grids

of stone piles also occur near Salta in Argentina, at Pucará de Lerma (G. de Créqui-Montfort, *I.C.A.*, xIV (1904), part II, figures 21-3).

- 12. Maria Reiche, op. cit., 20-5. The thesis of astronomical sighting-lines was first proposed by Paul Kosok, 'The Mysterious Markings of Nazca', Natural History, LVI (1947), 200. A radiocarbon date reported by Strong, M.S.A.A., XIII (1957), 46, gave A.D. 525 ±80, measured on a wooden post from the intersection of two lines.
- p. 286
  13. The celebrated earthwork design in the sand on the seaward hill flank of Paracas peninsula, called Tres Cruces, may belong to the same class. It represents a geometrical tree-shape 128 m. (140 yards) long and 74 m. (81 yards) wide (M. Uhle, 'Explorations at Chincha', U.C.P.A.A.E., XXI (1924), 92-4), and its forms are comparable to those of Nazca B pottery.
- p. 287 14. Mainly through Strong's preliminary publication of his reconnaissance and excavations; M.S.A.A., XIII (1957).
- p. 288

  15. A. L. Kroeber, 'Paracas Cavernas and Chavin', U.C.P.A.A.E., XL (1953), 313-48. On Paracas chronology, based upon ceramic typology, J. H. Rowe, 'La seriación cronológica de la cerámica de Paracas elaborada por Lawrence E. Dawson', Revista del Museo Regional de Ica, LX (1958), 9-21.
  - 16. Lothrop and Mahler, 'Late Nazca Burials in Chaviña', P.M.P., L (1957), 9, ascribe the first appearance of multiple slipping in various colours to Cavernas times. The whites are kaolin clay; black is soot or ground slate; red is an iron oxide. Yellow comes from ferruginous clays, and the greens and blues were made of copper-bearing minerals, such as malachite. S. Linné, The Technique of South American Ceramics (Göteborg, 1925), 134. For information on cream-slipped pottery I am indebted to John Rowe.
    - 17. Strong, M.S.A.A., XIII (1957).
  - 18. Gayton and Kroeber, U.C.P.A.A.E., xxiv (1927), 13.
  - 19. Lothrop and Mahler, op. cit., 24-5, discuss the Nazca effigies. Three were excavated at Chaviña.
- p. 289 20. A useful table of outline drawings of the principal Cavernas and Necropolis vessels was published by R. Carrión Cachot, *Paracas Cultural Ele*ments (Lima, 1949), plate XVIII.
  - 21. Lothrop and Mahler, op. cit., 10, call the characteristic form a 'cactus-spine demon' in their analysis of B-style motifs.

- 22. L. Valcárcel, 'El gato de agua', R.M.N.L., I p. 290 (1932), 3–27, identified these whiskers as belonging to the sea-otter. Contrast E. Yacovleff, 'La deidad primitiva de los Nazca', R.M.N.L., I (1932), 102–61, and E. Seler, 'Die buntbemalten Gefässe von Nazca', G.A., IV (1923), 172–338.
- 23. *Ibid.* For H. Ubbelohde-Doering, whose interpretations are more fanciful, the concentric-square theme represents the tomb, and the 'jagged-staff' figures refer to a tabu on menstruating women, by analogy with nineteenth-century beliefs in New Zealand; *J.S.A.*, xxIII (1931), 177-88, and xxv (1933), 1-8.
- 24. J. Bird, in M.S.A.A., VIII (1951), and (with p. 292 Louisa Bellinger) Paracas Fabrics and Nazca Needle-work (Washington, 1954), 2.
- 25. Lothrop and Mahler, op. cit., 46. A tapestry in the University Museum, Philadelphia, corresponds to Nazca B pottery designs of late date found at Chaviña (illustrated in Bennett, Ancient Arts of the Andes, New York, 1953, figure 72).
- 26. L. M. O'Neale, 'Textile Periods in Ancient Peru, II: Paracas Cavernas and the Grand Necropolis', U.C.P.A.A.E., XXXIX (1945), 143–202.
- 27. Strong, M.S.A.A., XIII (1957), 16. On wide weaves, see also Anni Albers, On Designing (New Haven, 1959).
- 28. G. A. Fester and J. Cruellas, 'Colorantes de p. 293 Paracas', R.M.N.L., III (1934), 154–6. Indigo dye on brown or yellow fibre produced the characteristic Paracas greens.
- 29. C. E. Stafford, Paracas Embroidery (New York, 1941).
- 30. General account by J. C. Tello, Antiguo Perú, 126–49. Cavernas tombs: E. Yacovleff and J. C. Muelle, 'Una exploración en Cerro Colorado', R.M.N.L., I (1932), 31–59 and 81–9. Survey of the wrapping and clothing types by R. Carrión Cachot, 'La indumentaria en la antigua cultura de Paracas', Wira Kocha, I (1931). Detailed account of the unwrapping of bundle no. 217 by Yacovleff and J. C. Muelle, 'Un fardo funerario de Paracas', R.M.N.L., III (1934), 63–153. My main source for reconstructing the other mummy-bundle associations has been the article by R. Carrión Cachot.

Late in 1959 the monumental publication posthumously issued under the name of Julio C. Tello, entitled *Paracas*, *Primera Parte* (Lima, 1959), reached me, after the writing of this chapter. The text, written in 1942, presents Tello's views on sequence as at that date. The illustrations add to the range published by Carrión.

- p. 294 31. Yacovleff and Muelle, *loc. cit.*, in their fundamental analysis of Paracas style, described the coexistence of rectilinear and curvilinear styles as a 'dimorphism'. Bundle 217, however, on which their observations were based, belongs by style to an early group. My tabulation, based upon incomplete publications and fragmentary records, is bound to be inaccurate, although inherently probable. Bundle 290 (Tello, *Paracas*, plates LXVIII—LXXVIII) contained one rectilinear piece among many approaching the ornate manner of our Group 4.
- p. 296 32. The best account of the Cavernas tomb finds is the article by E. Yacovleff and J. C. Muelle quoted in Note 30 (R.M.N.L., 1).
  - 33. Another painted cloth, from Trancas in the Nazca Valley, portrays birds bearing twigs in their beaks. Reproduced in L. M. O'Neale, 'Textiles of the Early Nazca Period', F.M.N.H.A.M., II (1937), 135. It is closer to groups 2 and 3 in style than the Cleveland cloth, which by style should be several generations later. See also Tello, Paracas, plates LXVIII–LXXVIII (mummy 290), for a painted cloth belonging to our group 4.
  - 34. An exception in the Peabody Museum, Harvard, has cats on the field and birds in the border of a group 2 mantle. Bennett, *Ancient Arts of the Andes* (New York, 1953).
- p. 297
  35. On the differences between Nazca and Necropolis embroideries, see L. M. O'Neale and T. W. Whitaker, 'Embroideries of the Early Nazca Period and the Crop Plants Depicted on Them', Southwestern Journal of Anthropology, III (1947), 294–321. Paracas details vary less in drawing, and more in colour. The best reproductions in colour are in the album of plates with text by Itoji Muto and Kunisuke Akashi, Textiles of Pre-Inca (Tokyo, 1956).
  - 36. R.M.N.L., III (1934), 63-153.
- Dorothy Menzel, 'Problemas en el estudio del horizonte medio de la arqueología peruana', Revista del museo regional de Ica, IX (1958), 24–56. Also W. D. Strong, 'Paracas, Nazca, and Tiahuanacoid Cultural Relationships in South Coastal Peru', M.S.A.A., XIII (1957), and J. H. Rowe, 'Archaeological Explorations in Southern Peru', Am.A., XXII (1956), 147–50. Other key sites for the Tiahuanaco expansion are in the Ayacucho region (p. 306) and at Pachacamac (pp. 278–82).

- 38. The only extended description in print of this find is in the article by E. Yacovleff, 'Las falconidas en el arte y las creencias de los antiguos peruanos', R.M.N.L., I (1932), IIO-II. The Olson excavations at the same site in 1930 are summarized in the article by D. Menzel, *loc. cit.* The plant forms on the giant tubs are reproduced with identifications by E. Yacovleff and F. L. Herrera, 'El mundo vegetal de los antiguos peruanos', R.M.N.L., III (1934), 243-322, and IV (1935), 31-102.
- 39. The same conventions appear in Nazca embroideries of the early period. L. M. O'Neale and T. W. Whitaker, *loc. cit.*
- 40. Kroeber and Strong, 'The Uhle Pottery Col- p. 299 lections from Ica', U.C.P.A.A.E., XXI (1924), 95-133.
- 41. Twenty Ica carved boards are illustrated by M. Schmidt, *Kunst und Kultur des alten Peru* (Berlin, 1929), 426–33.
- 42. H. Trimborn, Quellen zur Kulturgeschichte des präkolumbischen Amerika (Stuttgart, 1936), 236. This report of 1558, written by C. de Castro and D. de Ortega Morejón, names the rulers of the three valley tribes at the time of the Inca conquest, given as having lived early in the fifteenth century. ('Relaçion y declaraçion del ... valle de Chincha', ed. W. Petersen.) E. Harth-Terré, 'Incahuasi. Ruinas incaicas del valle de Lunahuaná', R.M.N.L., II (1933), 99–126, gives plans and restored views of various dwelling compounds in the Cañete Valley, corresponding to the period of this text.
- 43. For these details on Chincha Valley archi- p. 300 tecture I am indebted to John H. Rowe, whose advice on this chapter has been most valuable.

#### CHAPTER 16

- I. 'Cultural Unity and Disunity in the Titicaca p. 301 Basin', Am.A., xvI (1950), 89-98.
- 2. Dr Alfred Kidder kindly communicated these dates before publication from his 1955 excavations. He had earlier suggested the priority of Pucara on stratigraphic arguments (M.S.A.A., IV (1948), 87-9), relating to the position of Bennett's Chiripa site as pre-Tiahuanaco rather than late (ibid., 90-2).
- 3. A. Kidder, II, 'Some Early Sites in the North- p. 302 ern Lake Titicaca Basin', P.M.P., XXVII (1943), 5-6.
- 4. L. Valcárcel, 'Litoesculturas y cerámicas de Pukara', R.M.N.L., IV (1935), 25-8, illustrates eight pieces, of which three from Caluyu are typologically simpler, and possibly earlier.

- 5. J. H. Rowe, 'Archaeological Explorations in Southern Peru', Am.A., XXII (1956), 144.
- p. 302 6. Bennett, A.M.N.H.A.P., xxxv (1935), 413-46, and M.S.A.A., IV (1948), 90-2.
  - 7. J. Rowe, 'Two Pucara Statues', Archaeology, xI (1958), 255-61.
- p. 303 8. Nos 30 and 31 in the Bennett catalogue of Tiahuanaco stone sculpture; A.M.N.H.A.P., xxxiv (1934), 462-3.
  - 9. Posnansky, *Tihuanacu* (New York, 1945), 170–2, and figures 91–6. A figure closely resembling the Pokotia statues has been traced to Chumbivilcas province, 100 miles north-west of Pucara. Another statuette in Berne, acquired at Tiahuanaco, is also of the Pokotia type, with serpent-braids looping over the shoulders; Rowe, *loc. cit.*
  - 10. S. Rydén, Archaeological Researches in the Highlands of Bolivia (Göteborg, 1947), 90-7, regards Wancani as a Late Tiahuanaco site because of its ceramic types.
  - 11. E. Casanova, 'Investigaciones arqueológicas en el altiplano boliviano', Relaciones de la sociedad argentina de antropología, 1(1937), 167-72. W. Ruben, Tiahuanaco, Atacama und Araukaner (Leipzig, 1952), 50-5, gives a concise survey of the entire altiplano question, grouping all Pucara-style sites.
  - 12. Bennett, A.M.N.H.A.P., XXXIV (1934), 441 and 462 (no. 24).
  - 13. A. Stübel and Max Uhle, Die Ruinenstaette von Tiahuanaco (Leipzig, 1892); W. Bennett, 'Excavations at Tiahuanaco', A.M.N.H.A.P., xxxiv (1934), 359–494; D. E. Ibarra Grosso, J. de Mesa, and T. Gisbert, 'Reconstrucción de Taypicala (Tiahuanaco)', C.A., xiv (1955), 149–75. The essay by R. Trebbi del Trevigiano, Critica d'arte, xxiii (1957), 404–19, asserts the 'centripetal' character of Tiahuanaco as a receiving centre, on stylistic grounds. His chronological and cultural connexions, however, are weak.
- p. 305

  14. The best modern discussions of the site as a whole are by W. Ruben, op. cit., and Ibarra Grosso, Mesa, and Gisbert, loc. cit. Three objections to the reconstructions by the latter are necessary: their simplification of the plan of the Akapana is not supported by air photographs, which show re-entrant corners as on the Posnansky plan; their thesis of intersecting roadways takes no account of the water barrier at the moat; and the reconstruction of the Akapana as a solid platform is less probable than a U-shaped secondary platform, as indicated by the present contours and by the drainage conduit un-

- covered by G. Courty in 1903 (I.C.A., XIV (1904), part 2, figure 2, and 533).
  - 15. Bennett, A.M.N.H.A.P., XXXIV (1934), 387. p. 306
- 16. Bronze objects of indubitable Tiahuanaco style are not known from the altiplano; P. Rivet and H. Arsandaux, La métallurgie en Amérique précolombienne (Paris, 1946), 27–8. W. C. Root, H.S.A.I., v, 222, points out that cold-worked copper is harder than unworked cast bronze. Stübel and Uhle, op. cit., 44–5, first observed that the perfect rectangularity on a small scale is explainable only by sharp, hard tools, which we must now suppose to have been of copper. The rough quarrying probably depended upon fire, water, and ice.
- 17. G. de Créqui-Montfort, op. cit.; Bennett, A.M.N.H.A.P., xxxv (1935), figure 37; and Bennett, Excavations at Wari (New Haven, 1953).
- 18. The catalogue by Bennett (A.M.N.H.A.P., p. 307 XXXIV (1934), 460–3) lists the principal pieces with bibliography. His chronological succession (478) agrees in the main outlines with the one proposed here, although his 'Decadent' pieces fit better with our 'Early' group.
- 19. The name is modern; nothing is known of p. 308 the intended meaning of the reliefs (Yacovleff, R.M.N.L., I (1932), 84–6), save that they represent costumed humans, some of them masked. M. Uhle, Wesen und Ordnung der altperuanischen Kulturen (Berlin, 1959), 57–77, gives a plausible interpretation based upon two colonial myths. Uhle identifies the figures as sun-symbols surrounded by heralds or messengers.
- 20. Illustrated in Posnansky, Tihuanacu, figures p. 309 141, 143-4, 150.
- 21. The painted portions are described by Créqui-Montfort, op. cit., 536, 541.
- 22. The nail holes surrounding certain reliefs are illustrated by Posnansky, op. cit., figures 56-8.
- 23. C. Ponce Sanginés, Cerámica Tiwanacota. Vasos con decoración prosopomorfa (Buenos Aires, 1948), assigns polychrome examples to the Classic phase, and black-ware pieces to a later time.
- 24. F. Buch, El Calendario Maya en la cultura de p. 310 Tiahuanacu (La Paz, 1937). J. C. Tello, 'Wirakocha', Inca, 1 (1923), 93-320, 583-606; F. Cossio del Pomar, Arte del Perú precolombino (Mexico-Buenos Aires, 1949). The most recent addition to the literature of calendrical interpretation of these monuments is by F. Hochleitner, 'Die Vase von Pacheco', Zeitschrift für Ethnologie, LXXXV (1960), 259-68.

- 25. Bennett, A.M.N.H.A.P., xxxv (1936), 331–412; S. Rydén, op. cit., and W. Ruben, op. cit., have studied the provincial diffusion of the Tiahuanaco style eastward into the Bolivian lowlands and south towards Chile.
- 26. Rowe, 'Archaeological Explorations in Southern Peru', Am.A., XXII (1956), 150; Bennett, Excavations at Wari, 114–18. Larco Hoyle, Cronología arqueológica (Lima, 1948), 37 f., was the first to propose the Mantaro basin as the centre of this diffusion.

Rowe, Am.A., XXII (1956), 144, suggested Wari as the originating metropolitan centre for all the regional variants of Tiahuanaco style in Peru and Bolivia. Bennett believed that Tiahuanaco in Bolivia had the better claim. Also L. G. Lumbreras, 'La Cultura Wari', Etnología y Arqueología, I (1960), 130-227.

- been properly published. The best collection, belonging to the Gálvez-Durán family in Huancayo, was dispersed about ten years ago.
  - 28. Rowe, Am.A., XXII (1956), 149, defined a stylistic frontier between Peruvian and Bolivian versions of Tiahuanaco ceramic style in the vicinity of Sicuani, between Cuzco and Lake Titicaca.
  - 29. P. A. Means, Ancient Civilizations of the Andes (New York, 1931), 111–13 and 136–46, proposed two older eras at Tiahuanaco, labelled I and II (third to tenth centuries A.D.), followed by 'Decadent' coastal or 'Epigonal' forms in the rest of Peru (A.D. 900–1400). Based upon Uhle's excavations and upon the colonial chronicle by F. Montesinos, the Means sequence no longer holds among professional Andeanists. See L. M. Stumer, 'Development of Peruvian Coastal Tiahuanacoid Styles', Am.A., XXII (1956), 59–69.
  - 30. Essais, ed. Motheau and Jouaust, VI (Paris, 1888), 60.
  - 31. J. H. Rowe, 'An Introduction to the Archaeology of Cuzco', P.M.P., xxvII (1944), no. 2.
- p. 312 32. H. Reichlen, J.S.A., XLIII (1954), 221–3. Slab masonry shaft tombs recall the Wari constructions. Over Chanapata sherds near by lay a thick deposit of Tiahuanaco-style sherds. Also Rowe, Am.A., XXII (1956), 142, who sees a resemblance between Wari and Pikillaqta.
  - 33. L. Valcárcel, R.M.N.L., III (1934), 184, found enough Inca sherd material at that time to be convinced of its Inca date. S. Astete Chocano, Revista del Instituto Arqueológico del Cuzco, III (1938), 53-8,

- assigns the construction to the Pinawa tribe who dominated the area. Luis Pardo, Revista Universitaria del Cuzco, XXII (1933), 139–47, gives the legendary history of the site. It can be traced as far as 1834, when the story related by Pardo was recorded by the French traveller E. G. E. de Sartiges, Dos viajeros franceses en el Perú republicano, ed. R. Porras (Lima, 1947). It treats the building of the aqueduct as a love-test imposed by a princess.
- 34. On the thesis that all grid-plan towns are of Old World origin, and on the absence of chequer-board plans in ancient American planning, D. Stanislawski, *Geographical Review*, xxxvI (1946), 105; xxxvII (1947), 94-105.
- 35. L. Valcárcel, 'Esculturas de Pikillajta', R.M.N.L., II (1933), 19–48, treats them as Inca symbols of the submission of other Andean peoples.
- 36. Wari lacks any semblance of grid-planning, in the only map of the site, made by Bennett, *Wari*, 19, figure 2.
- 37. J. Rowe, 'An Introduction to the Archaeology of Cuzco', *P.M.P.*, xxvII (1944), no. 2, and 'Absolute Chronology in the Andean Area', *Am.A.*, III (1945), 265-85. A good general account of Inca architecture with plans, V. W. v. Hagen, *The Realm of the Incas* (New York, 1957), 147-67.
- 38. Joseph Bram, An Analysis of Inca Militarism p. 313 (New York, 1941).
- 39. The fullest treatment of these fragments is by p. 314 J. Rowe, P.M.P., XXVII (1944), 26-41.
- 40. P. Cieza de León records Tupac Yupanqui's organization of the labour force: 20,000 labourers were brought from the provinces, including 4,000 quarrymen and 6,000 transport workers. The remainder were masons and carpenters, under professional foremen. All workers were lodged in their own geographic camps (Travels 1532-1550, London, 1864). The chroniclers' descriptions, written in the sixteenth and seventeenth centuries, are reprinted in the excavation account by L. Valcárcel, R.M.N.L., III (1934), 14-24. The excavations were fully reported in R.M.N.L., III (1934), 3-36, 211-23; IV (1935), 1-24, 161-203; and in H.S.A.I., II, 177-82. The great Swedish ethnographer E. Nordenskiöld held that saw-tooth defences were imitated in Europe, where they first appeared about 1550, from American examples like Sacsahuamán; 'Fortifications in Ancient Peru and Europe', Ethnos, VII (1942).

- 41. The recent building history of Cuzco is recapitulated by G. Kubler, Cuzco, Reconstruction of the Town and Restoration of its Monuments (Paris, Unesco, 1952).
- p. 315 42. Bennett's seven types (H.S.A.I., II, 145-6) are inadequately differentiated. 'Megalithic', 'polygonal', and 'modified polygonal' are all nearly identical, like his 'square blocks' and 'dressed-stone blocks'. Pirca and adobe brick are the remaining two categories in Bennett's listing.
  - 43. This functional explanation was first proposed by John Rowe (*P.M.P.*., XXVII (1944), 24–5).
  - 44. M. K. Jessup, 'Inca Masonry at Cuzco', A.A., xxxvi (1934), 239-41.
  - 45. Luis Pardo, 'Maquetas arquitectónicas en el antiguo Perú', Revista del Instituto Arqueológico del Cuzco, I (1936), 6–17, has studied the small terracotta models of buildings in the Cuzco Archaeological Museum, but there is no clear proof that these were projects for buildings. They were perhaps souvenirs or mementos of important monuments. On cellular slabs, P. A. Means, Ancient Civilizations of the Andes, and L. Baudin, L'empire socialiste des Inka (Paris, 1928), 126, n. 1.
- р. 316 46. As suggested by Rowe, H.S.A.I., п, 229.
  - 47. P. Fejos, 'Archeological Explorations in the Cordillera Vilcabamba, Southeastern Peru', Yale University Publications in Anthropology, III (1944).
    - 48. Fejos, loc. cit., figure 15 and pp. 52-3.
  - 49. The best account of the city is in the beautifully designed book by Hiram Bingham, Machu Picchu, A Citadel of the Incas (New Haven, 1930). Bingham's views concerning the historical position of the site are recapitulated in Lost City of the Incas (New York, 1948), but his uncritical use of the chronicler F. Montesinos makes these works unreliable.
- p. 318 50. Both edifices are best known by E. G. Squier's descriptions and schematic drawings, *Peru* (New

- York, 1877), 343-6 and 359-66. A. F. Bandelier, *The Islands of Titicaca and Koati* (New York, 1910), presents more accurately measured plans and elevations.
- 51. Garcilaso de la Vega, Comentarios reales p. 320 (Madrid, 1723).
  - 52. Squier, op. cit., 402-13.
- 53. M. H. Tschopik, 'Some Notes on the Archaeology of the Department of Puno, Peru', P.M.P., xxvII (1946), 52-3.
- 54. Systematic description in W. Krickeberg, Felsplastik (Berlin, 1949), 1–24. Photographs, H. Ubbelohde-Doering, Auf den Königsstrassen der Inka (Berlin, 1941).
- 55. L. Valcárcel, H.S.A.I., II, 177-82, and p. 321 R.M.N.L., IV (1935), 223-33.
- 56. Arte peruano (Madrid, 1935), plates LXXIV-LXXV, and p. 15. Also Art des Incas (Paris, 1933), plate XVII (Collection of Juan Larrea). Two seated life-size figures of pumas from Cuzco are the only other examples we possess of large Inca figure sculpture.
- 57. Such devious drinking-vessels of carved and painted wood (pacchas) are common: T. A. Joyce, 'Pakcha', Inca, I (1923), 761–78. Lothrop, 'Peruvian Pacchas and Keros', Am.A., XXI (1956), 240, ascribes their invention to Chimu culture.
- 58. Rowe, *loc. cit.* (Note 37), 60–3; *H.S.A.I.*, II, p. 322 243, 287.
- 59. Especially B. Cobo, writing about 1653, Historia del nuevo mundo, III (Seville, 1892), 323-46. Also R. Lehmann-Nitsche, Revista del Museo de La Plata, XXXI (1928), 1-260.
- 60. Nueva coronica y buen gobierno (Paris, 1936), and R. Porras, El cronista indio Felipe Guaman Poma de Ayala (Lima, 1948).
- 61. On colonial keros, Mary Schaedel, Magazine of Art, XIII (1949), 17–19. Pre-Conquest examples, L. Valcárcel, 'Vasos de madera del Cuzco', R.M.N.L., I (1932), 11–18.

## GLOSSARY

- Adobe. Clay from which sun-dried bricks are made; unburnt bricks.
- Adorno. Any modelled clay attachment to a vessel wall or rim.
- Atadura. Literally, a binding. Maya façade moulding at impost level, usually consisting of three members.
- Atlatl. Wooden throwing-board for javelins, serving to lengthen the user's radius of reach.
- Avant-corps. Projecting portion, suggesting a wing or pavilion, which interrupts the continuity of the plane of a façade.
- Batter. In a wall of tapered section, the sloping face.

  A wall with inverted taper, thicker at the top than at the bottom, has negative batter.
- Cella. A temple chamber.
- Cenote. Natural well in a collapsed portion of the surface limestone of Yucatán.
- Chacmool. A fanciful yet standard term designating the stone figures of recumbent human males shown holding basins or platters on the abdomen (Mexico and Yucatán).
- Chamfer. A horizontal moulding of intaglio effect recessed within the wall of a Maya temple or pyramidal platform.
- Chinampa. A small artificial island made for gardening in the lakes of the Valley of Mexico.
- Chullpa. In the Central Andes, a stone tower used for burials.
- Cire perdue. The lost-wax method of casting metal objects by displacing a waxen model with molten metal.
- Classic. A developmental stage in Mesoamerican archaeology, referring to the period of the rise of high civilizations in many independent centres.
- Codex. The European book, consisting of leaves or folds of rectangular pages sewn together at one side, adopted by American peoples only after the Spanish Conquest.
- Collao. A district of the Andean highlands around Lake Titicaca.
- Concrete. A mixture of cement, sand, and water with any aggregate, capable of setting to the hardness of stone.

- Fine orange. Untempered pinkish-orange pottery of dense paste.
- Fin wall. Masonry membranes compartmenting the loose infilling in pyramid facings.
- Flying façade. Ornamental vertical extension in the plane of the façade of a Maya building.
- Glyph. Each pebble-shaped unit of Maya writing. Greenstone. Those American minerals, e.g. nephrite, serpentine, wernerite, possessing colours similar to oriental jades.
- Hacha. Thin stone blades with profiles of human heads.
- Header. Of bricks or stones, those laid in the wall with the smallest face exposed.
- Horizon style. A complex of traits having a known position in time, useful to date new finds and to correlate regions in time.
- Huaca. Quechua term in the central Andean region for any buried or ruined structure of putative religious use: more generally, any sacred thing or creature.
- Initial Series. A Classic Maya method (also called Long Count) for dating events by the day-count from a starting point. Identified by its initial position in longer inscriptions. Each digit is vigesimal rather than decimal: in a date transcribed 9.3.10.10.5, the first digit states that 9 cycles of 400 years (each having 20 periods of 20 years) have elapsed, followed by 3 twenty-year periods or katuns, 10 tuns or years of 360 days each, 10 uinals or months of 20 days each, and 5 kins or days. The total enumerates the days which have elapsed since the starting-point.
- Lienzo. A Mexican pictorial chart drawn or painted on a sheet of cloth.
- Lost wax. See Cire perdue.
- Mapa. A Mexican chart or pictorial table displaying geographical and historical relationships.
- Mesoamerica. The parts of pre-Columbian Mexico and Central America occupied by peoples of advanced urban traditions.

Metate. Náhuatl term for a portable stone surface for grinding food.

Middle America. The area from Panama to the Río Grande, including the Antilles.

Milpa. In Central America, a small burned clearing planted and abandoned after a few seasons.

Mise en couleur. A colouring process for goldcopper alloys by immersion in an acid pickle to dissolve the oxides, leaving a coating of pure gold.

Negative painting. Before firing, a vessel surface partly covered with wax is immersed in slip. Firing fixes the coloured slip but clears the waxed portions, so that the figure and its ground are reversed.

Palma. Tall, fan-shaped stones with concavely curved bases.

Palmate stone. See Palma.

Pastillage. Sculpture built of pellets of plaster shaped over a rough stone core.

Pirca. Andean wall construction using dry-laid, unshaped stones.

Plumbate. Monochrome pottery of a hard, grey, vitrified surface found throughout pre-Columbian Mesoamerica.

Post-fired painting. Addition of stucco or paint to pottery surfaces after firing.

Quetzal. A Central American bird of brilliant plumage.

Radiocarbon dating. Natural carbon 14 produced by cosmic rays enters the carbon dioxide life cycle at a constant rate. Upon the death of the organism the amount of C14 will decay according to the known half-life of 5760 ± 30 years. See Note 6, p. 325. The measured residue of C14 in organic samples allows relatively precise age determinations.

Resist-painting (see Negative painting). A batik process, in which waxed parts of a cloth remain undyed.

Roof-comb. Ornamental vertical extension rising above the rear wall or over the centre of Maya temple roofs.

Slip. A wash or dip of clay applied before the final firing of pottery objects, serving as ground for painted designs.

Spall. A large splinter or chip of stone, used to adjust the seat of larger stones in the coursing of the wall.

Stirrup spout. In Mochica pottery, a pouring vent consisting of two tubular branches united at the spout.

Stretcher. A brick or stone laid in the wall with its longer face showing.

Tablero. Literally, an apron. On the stages of a pyramidal platform, these portions rise vertically above each of the diagonal portions of the silhouette.

Talus. The slope of the face of a building, like the rock debris at the foot of a cliff: see Batter.

Tapia. A wall built by successive layers of puddled clay, i.e., worked when wet to be impervious to water.

Tepetate. In Mexico, a lava flow of pumice-stone. Teponaztli. Horizontal cylindrical drum slotted to form two tongues of different pitch.

Terraced meander. A band pattern of stepped rectilinear segments.

Tezontle. A light and porous volcanic stone, usually red, grey, or black, common in the Valley of Mexico

Tlachtli. Náhuatl term for the I-shaped ball-court used throughout Middle America.

Tumbaga. An alloy of gold with copper.

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I. Comprehensive Works

II. Mesoamerica

III. Ancient Mexico

A. General

B. Central Mexico

C. Eastern Mexico

D. Southern Mexico

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IV. Maya

A. General

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V. The Southern Neighbours of the Maya

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VII. The Northern Andes

VIII. The Central Andes

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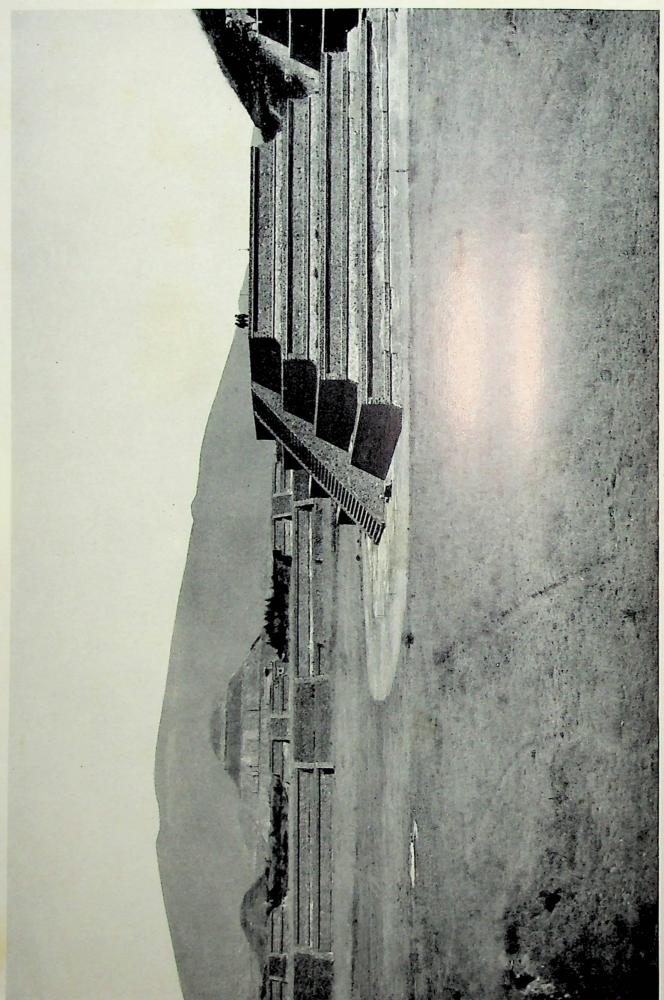
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# THE PLATES



Pottery figurine from Tlatilco, before 500 B.C. New Haven, Yale University Art Gallery, Olsen Collection



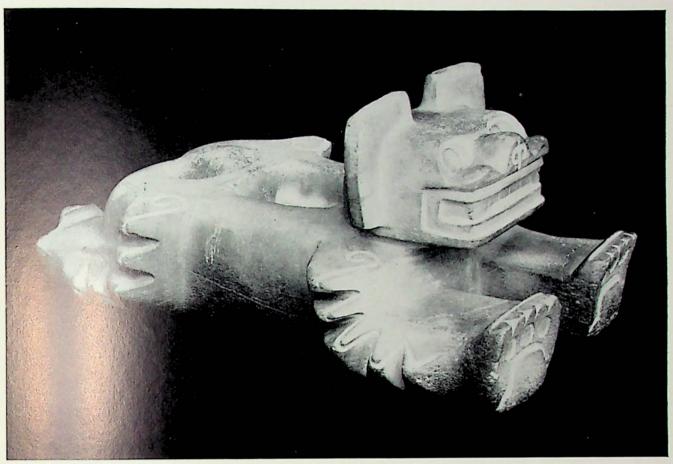
Teotihuacán, Ciudadela court, before 600. From the south



Teotihuacán, Ciudadela, inner face of the central pyramid, before 500



Water Goddess, colossal basalt figure from Teotihuacán, before 700. Mexico City, Museo Nacional de Antropología

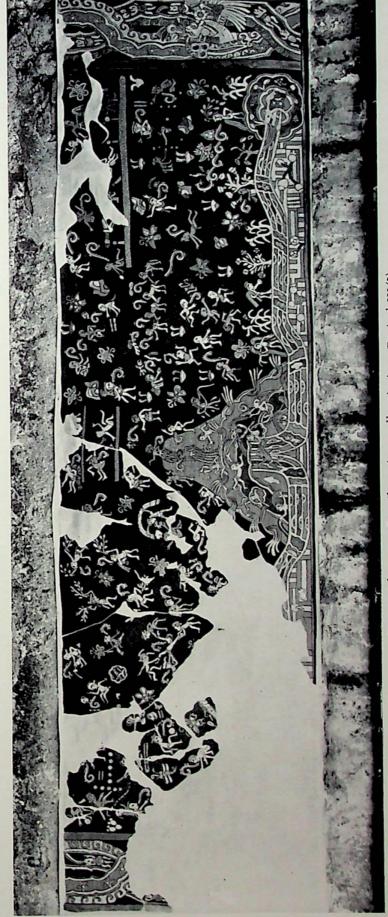


(A) Stone ocelot-vessel from the foot of the Pyramid of the Sun at Teotihuacán, before 700. *London, British Museum* 

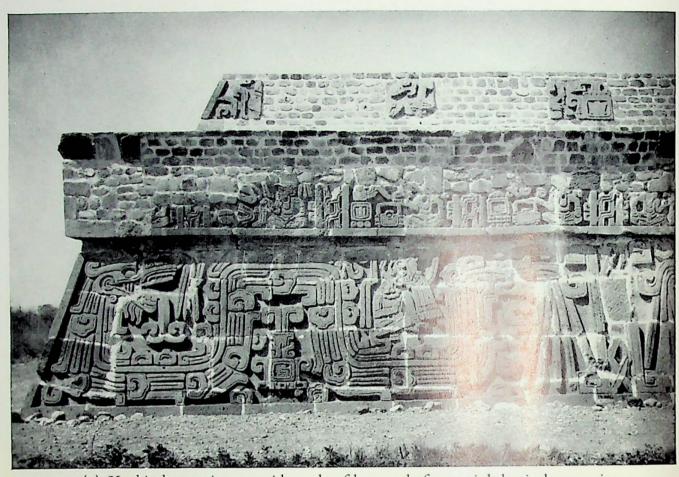


(B) Stone face panel, Teotihuacán style, before 700. Florence, Officina Pietre Dure





Tepantitla, near Teotihuacán, wall painting, Period III(?)



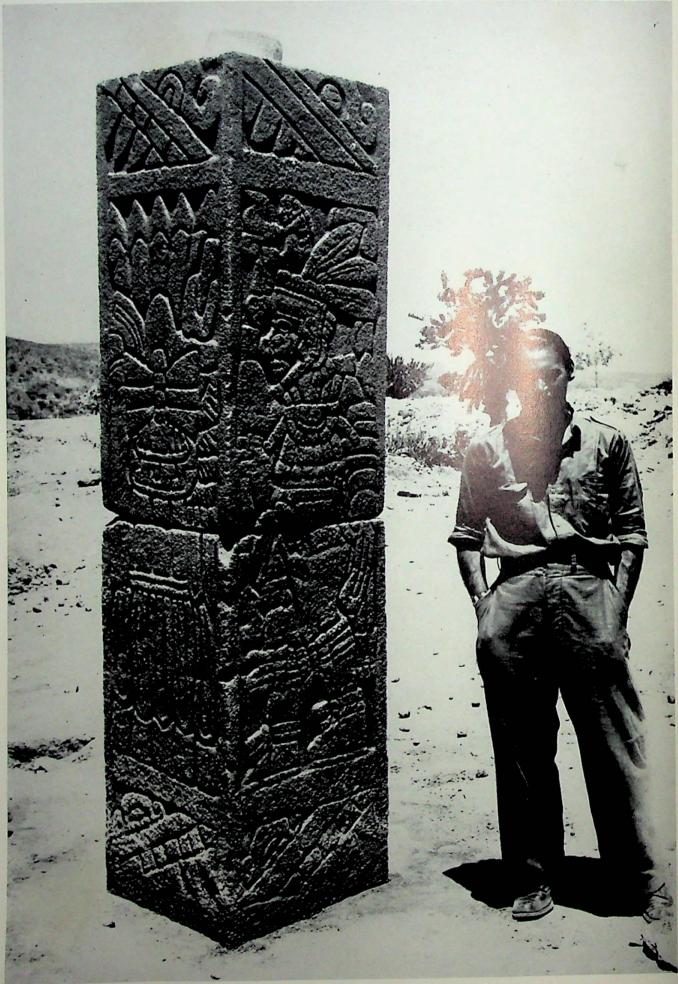
(A) Xochicalco, main pyramid, angle of lower platform, eighth-ninth centuries



(B) Tula, north pyramid facing, thirteenth century



Tula, basalt Atlantean figures, thirteenth century



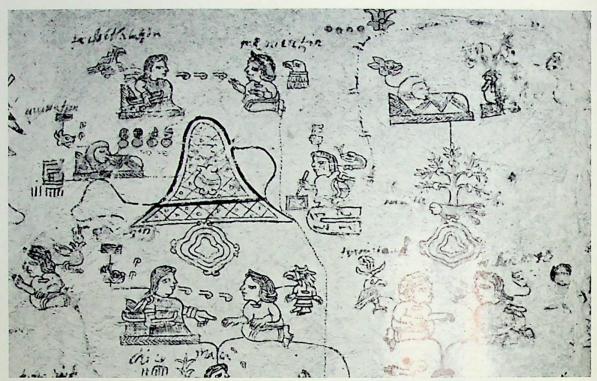
Tula, basalt pier relief of Toltec warrior, thirteenth century



(A) Tula, coatepantli (serpent wall), thirteenth century

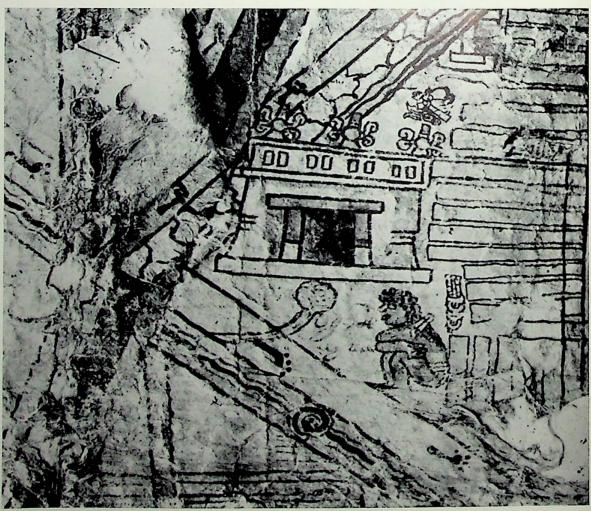


(B) Tula, basalt Chacmool, thirteenth century



(A) Codex Xolotl: The Tlailotlac. Chichimec chronicle, sixteenth century.

Paris, Bibliothèque Nationale

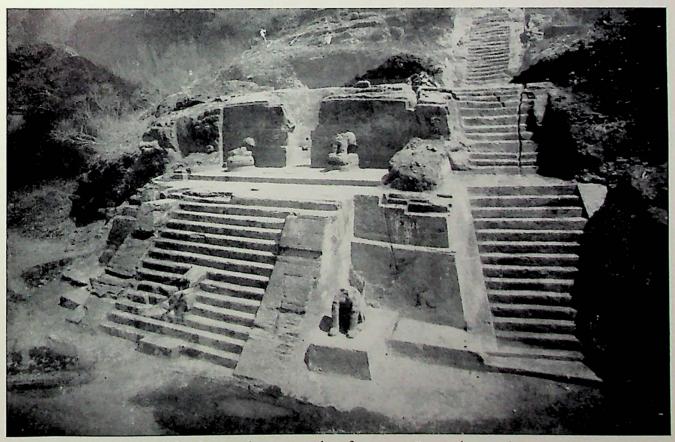


(B) Tenochtitlan, detail from a sixteenth-century plan of a pre-Conquest portion.

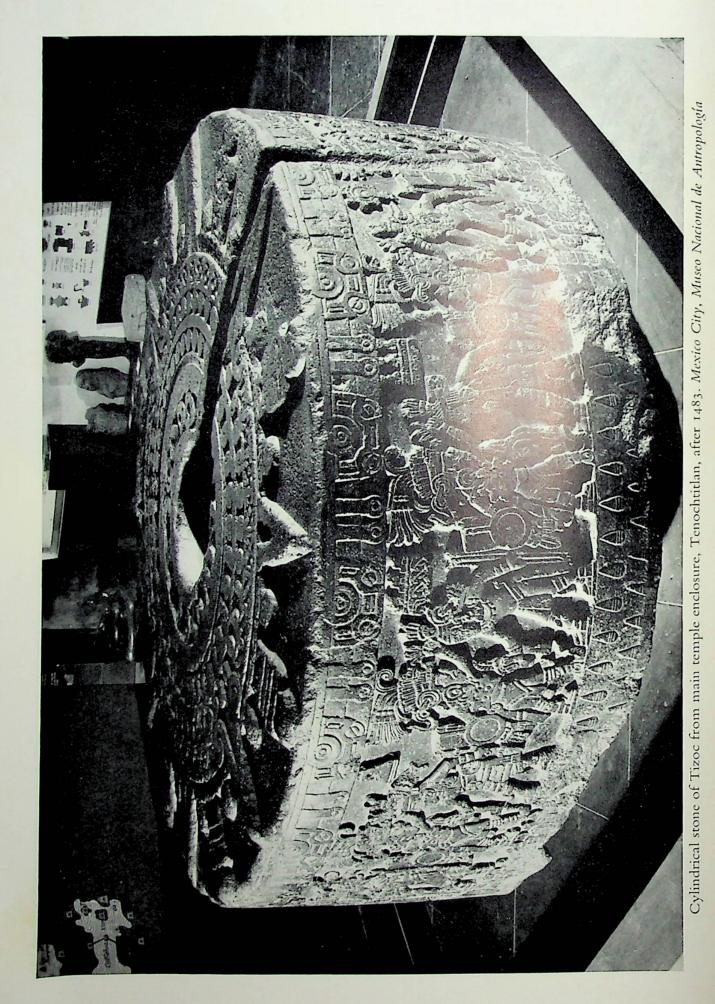
Mexico City, Museo Nacional de Antropología



(A) Calixtlahuaca, round pyramid, after 1476



(B) Malinalco, rock-cut temple, after 1476. From the south-west



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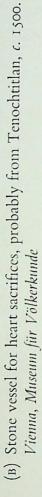


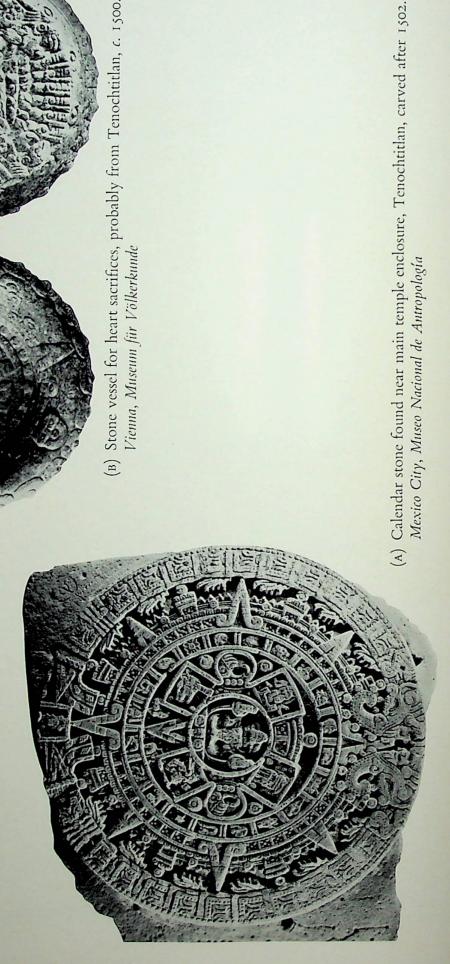
Moctezuma's Palace, Tenochtitlan, c. 1500. Mexico City, Museo Nacional de Antropología

(a) Stone slab commemorating Tizoc and Ahuitzol from main temple enclosure, Tenochtidan, dated Eight Reed (1487).

Mexico City, Museo National de Autropología

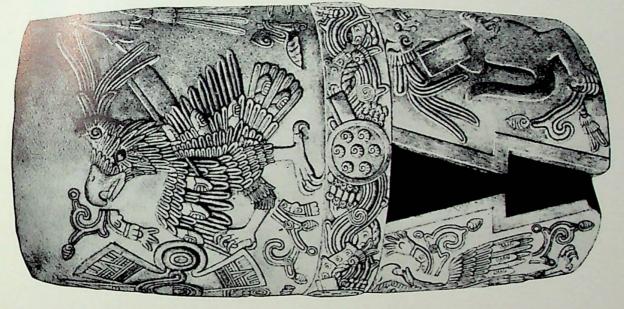


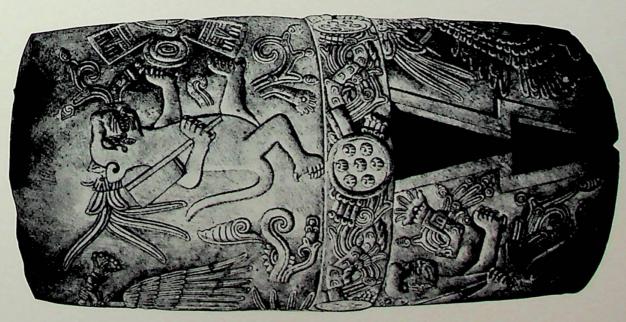






(B) Wooden drum, c. 1500. Toluca, Museo



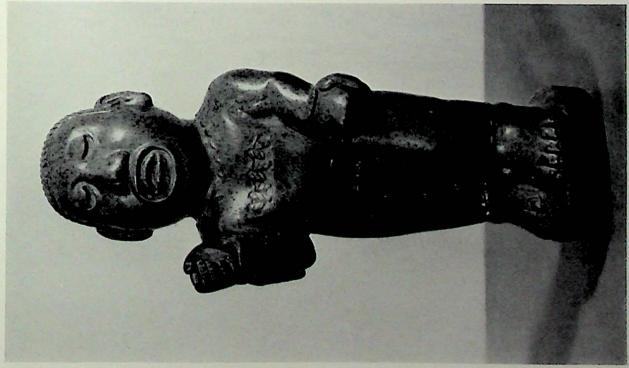


(A) Wooden drum from Malinalco, c. 1500. Mexico City, Museo Nacional de Antropología

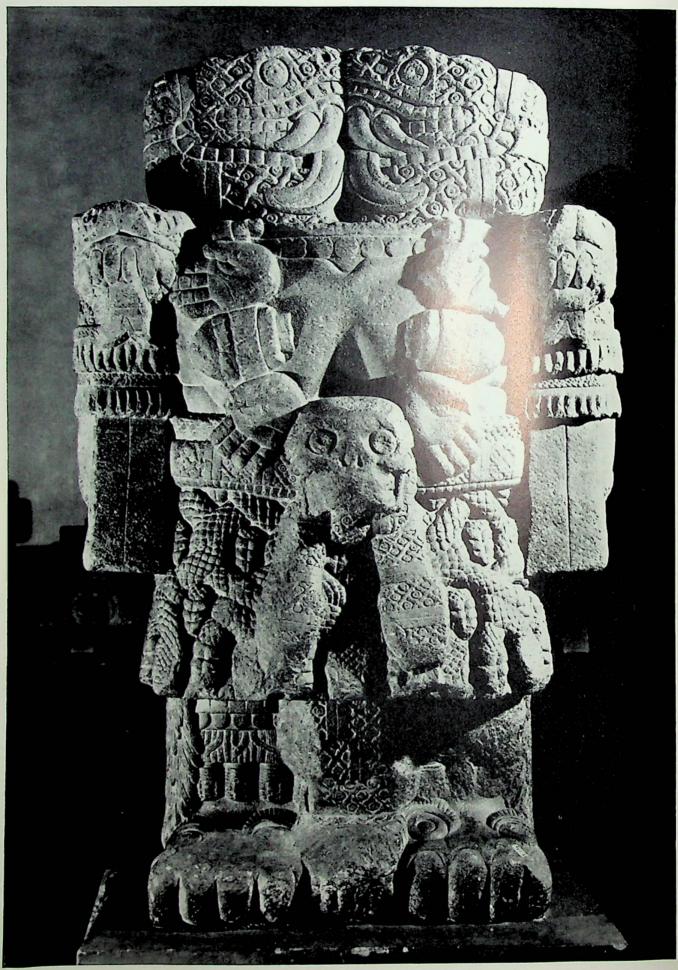


Stone face panel representing Xipe Totec, probably from Tenochtitlan, c. 1500. London, British Museum



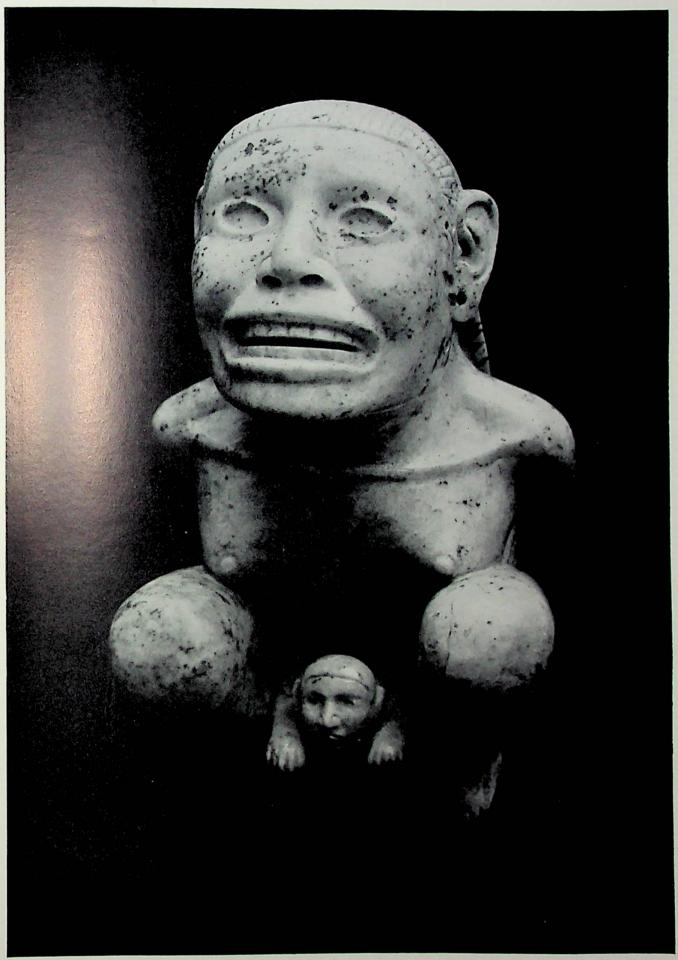


Greenstone statuette of Xipe Totec from Tenango del Valle, Valley of Mexico, c. 1500. Washington, National Gallery, Bliss Collection



Andesite statue of the goddess Coatlicue, found in main plaza, Mexico City, late fifteenth century.

Mexico City, Museo Nacional de Antropología



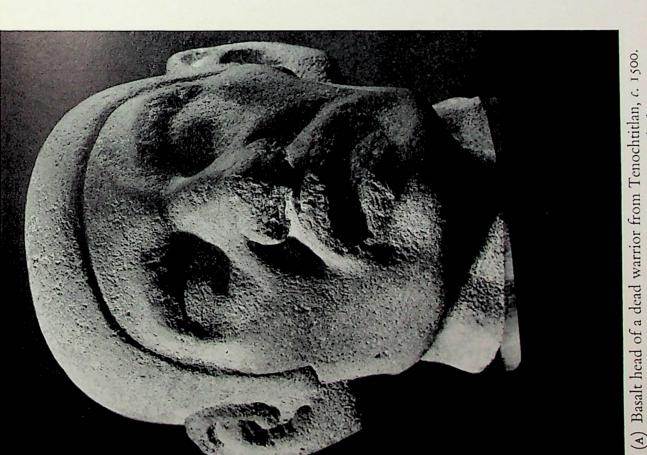
Deity in parturition from the Valley of Mexico (?), c. 1500. Aplite.

Washington, National Gallery, Bliss Collection



Stone tiger-vessel for blood sacrifices, from Tenochtitlan, c. 1500. Mexico City, Museo Nacional de Antropología





(A) Basalt head of a dead warrior from Tenochtitlan, c. 1500. Mexico City, Museo Nacional de Antropología

c. 1500. New York, American Museum of Natural History



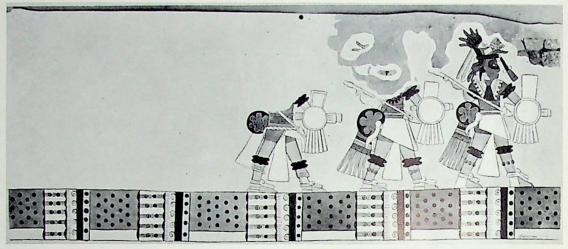
Diorite head of Coyolxauhqui, probably from Tenochtitlan, fifteenth century.

Mexico City, Museo Nacional de Antropología

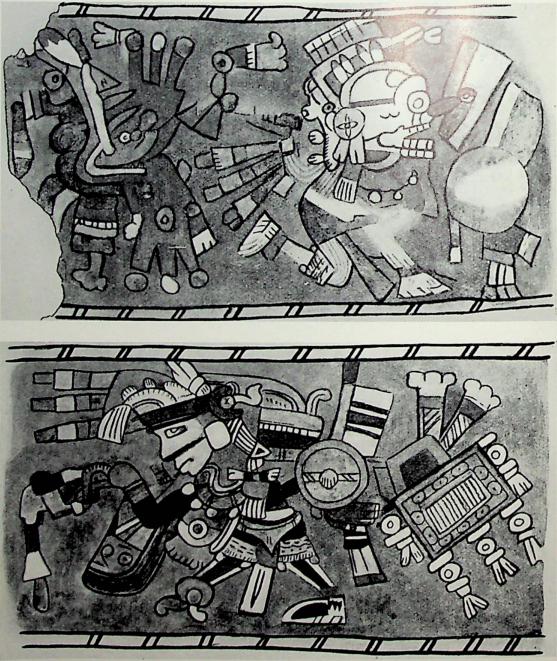


Featherwork panel of a coyote from Tenochtitlan, early sixteenth century.

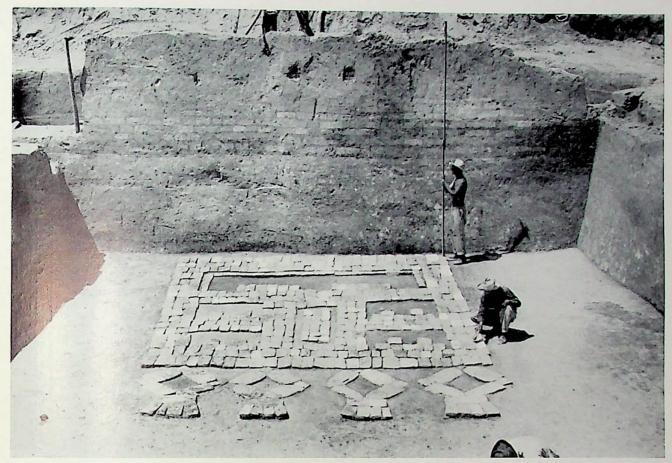
Vienna, Museum für Völkerkunde



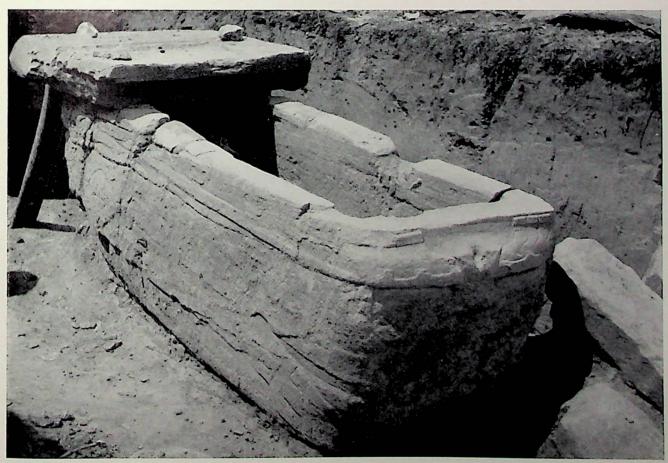
(A) Malinalco, mural representing warriors or hunting deities, late fifteenth century



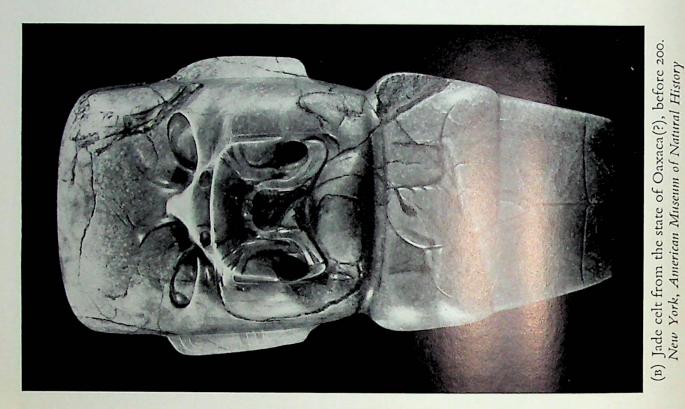
(B) Tizatlán, altar paintings showing Tezcatlipoca and Mictlantecuhtli, after 1000



(A) La Venta, mosaic floor beneath east platform at entrance to northern court, first millennium B.C.

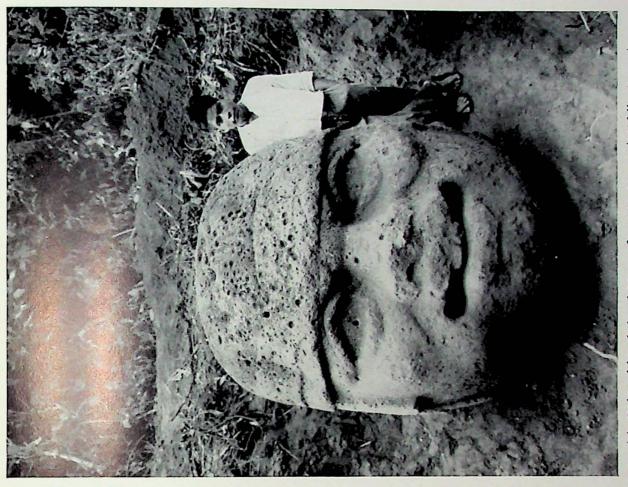


(B) Sandstone sarcophagus (Monument 6) from La Venta, c. 500 B.C. Villahermosa, Parque Olmeca

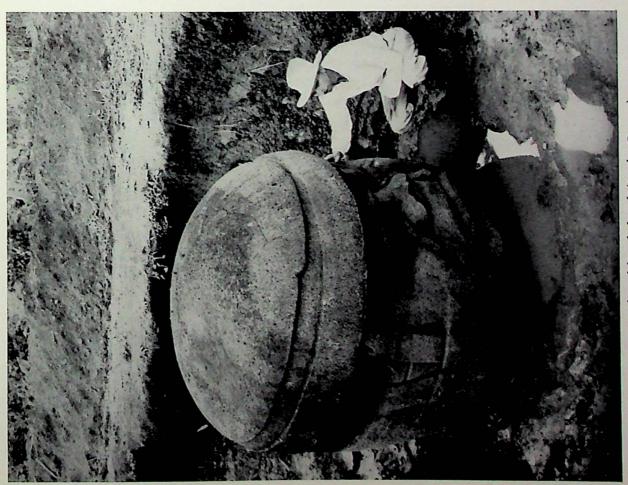




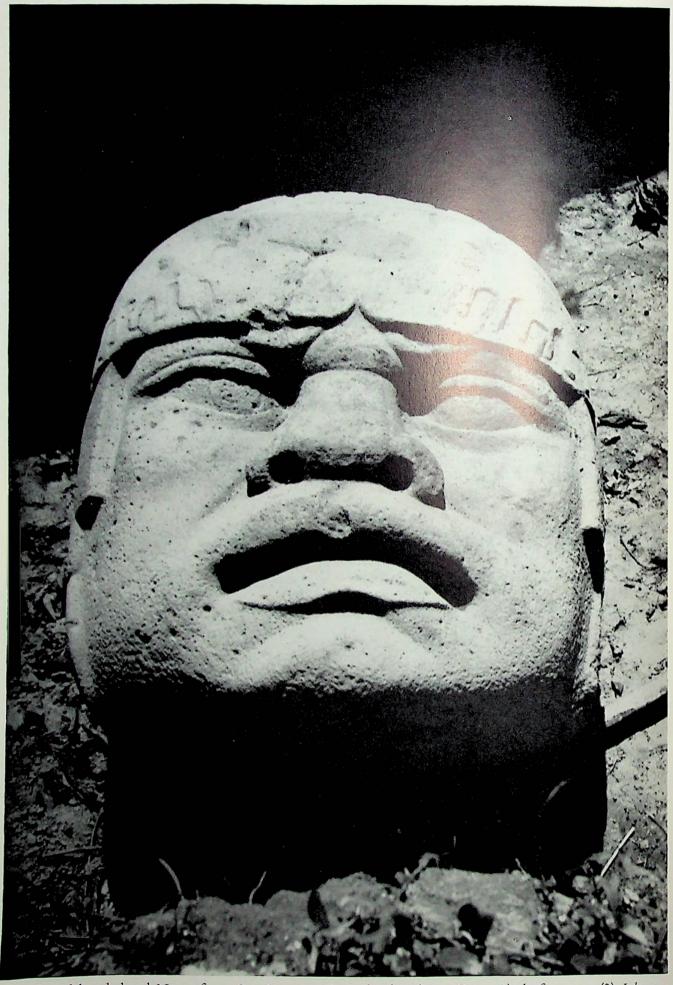
(A) Stone celt from the Gulf Coast (?), before 200. Cleveland Museum of Art, Gift of Hanna Fund



(B) Colossal basalt head No. 2 from La Venta (Middle Group), after 200 (?) Villahermosa, Parque Olmeca



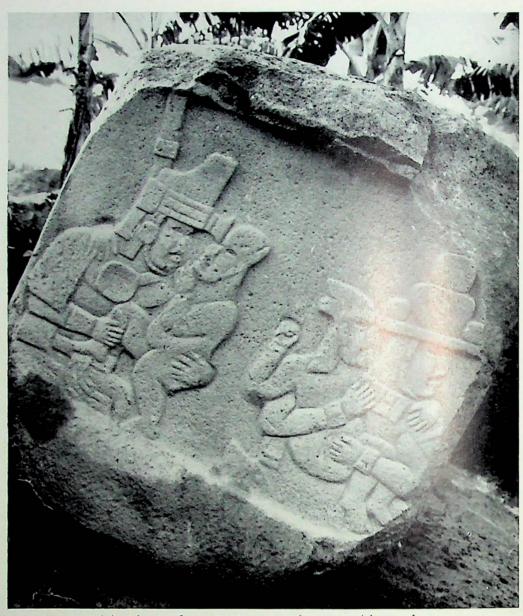
(A) Tres Zapotes, colossal basalt head (Early Group), c. 200



Colossal basalt head No. 5 from San Lorenzo Tenochtitlan (Late Group?), before 300 (?) Jalapa



Stela D from Tres Zapotes, before 200. Basalt. Mexico City, Museo Nacional de Antropología

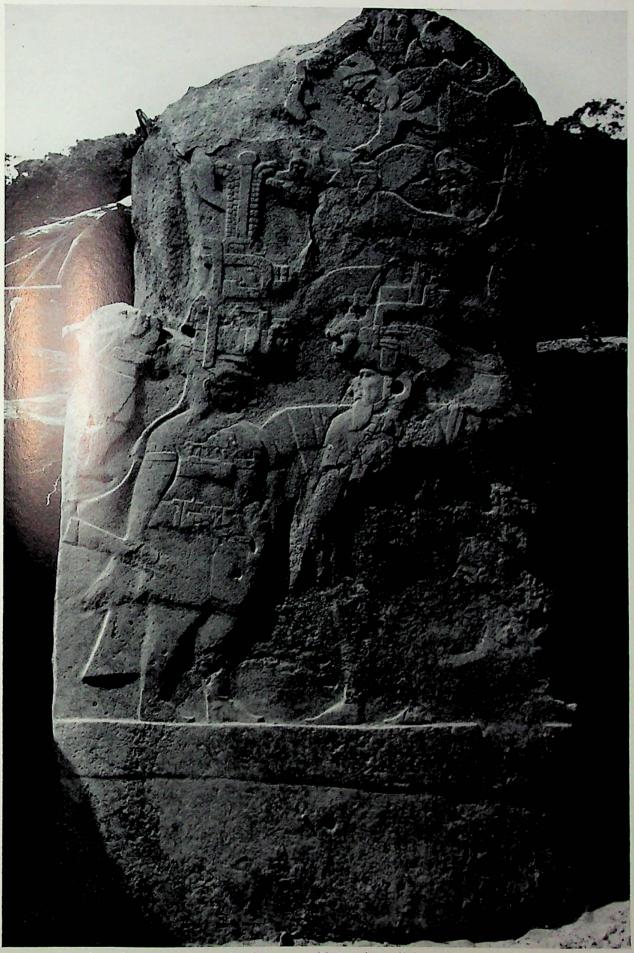


(A) Altar 5 from La Venta, side, c. 300(?) Basalt. Villahermosa, Parque Olmeca

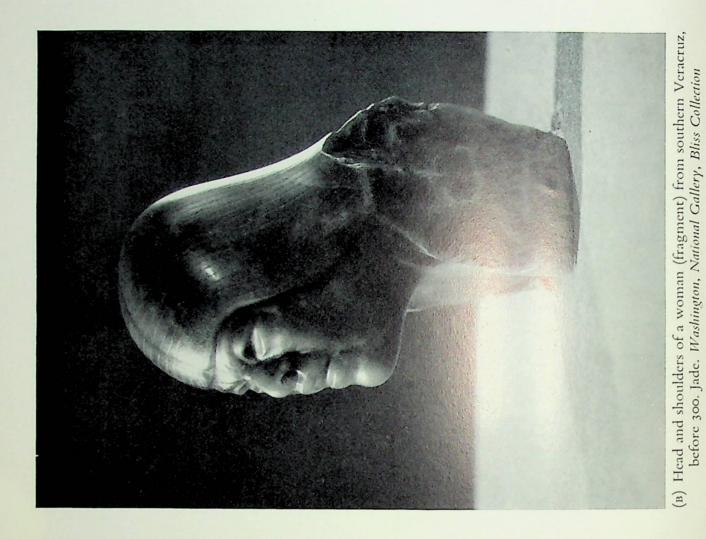


(B) Pottery figurine heads from La Venta, various periods.

Mexico City, Stavenhagen Collection

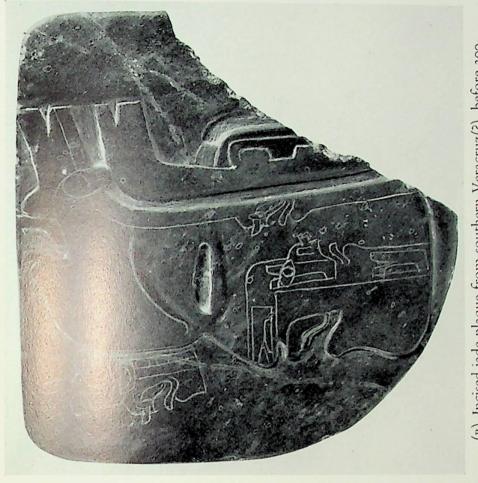


Stela 3 from La Venta, third century (?) Basalt. Villahermosa, Parque Olmeca

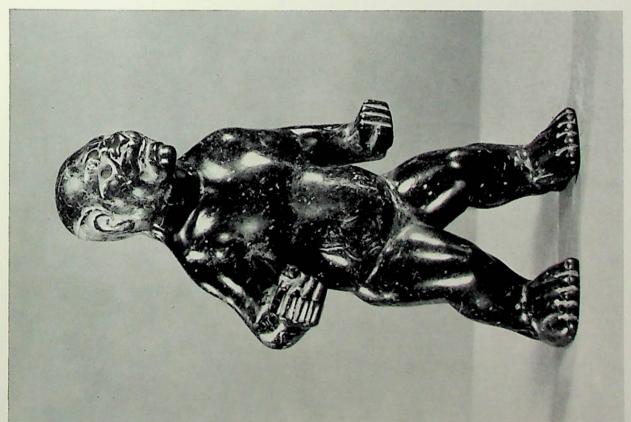




(A) Seated woman from La Venta, before 300. Jade. Mexico City, Museo Nacional de Antropología

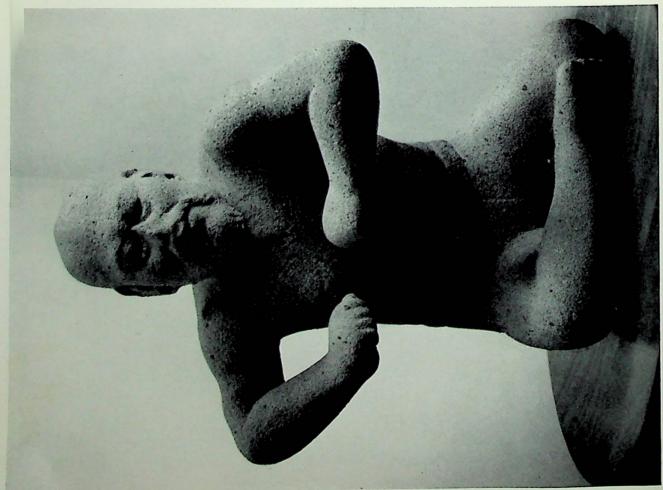


(B) Incised jade plaque from southern Veracruz(?), before 300. Mexico City, Museo Nacional de Antropología

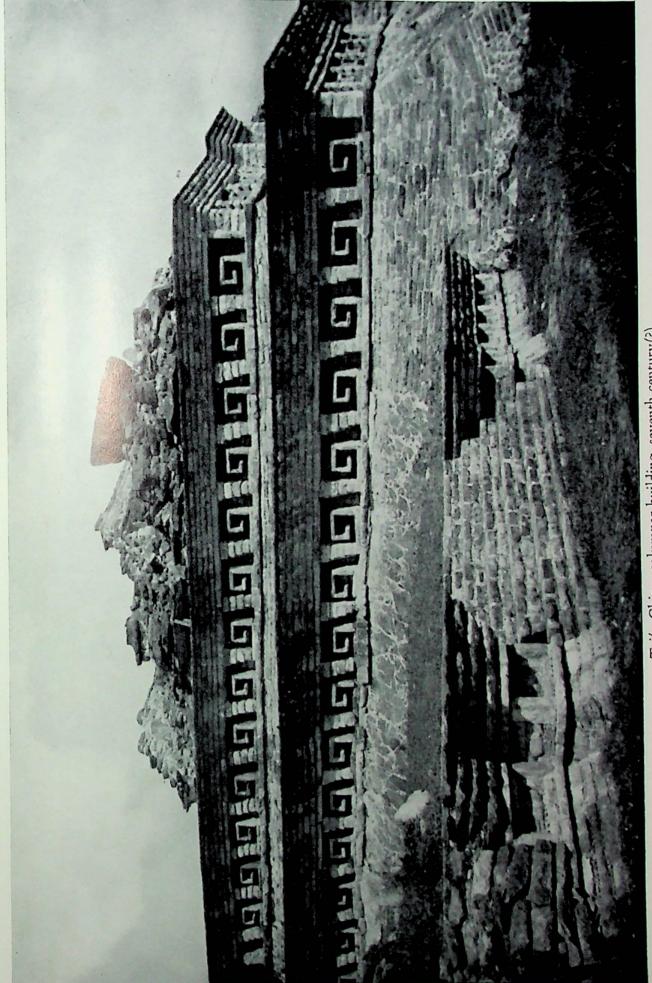


(A) Gladiator from southern Veracruz (?), before 300. Jade. Washington, National Gallery, Bliss Collection



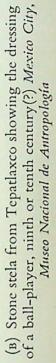


Seated athlete from Santa María Uxpanapan, before 300(?) Stone. Mexico City, Museo Nacional de Antropología



Tajín Chico, columnar building, seventh century(?)



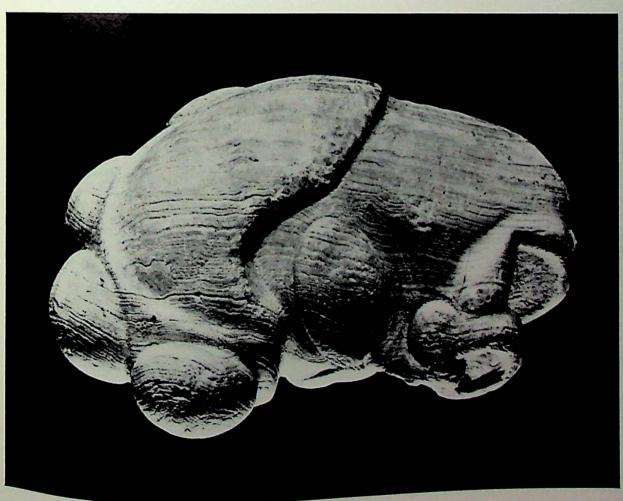




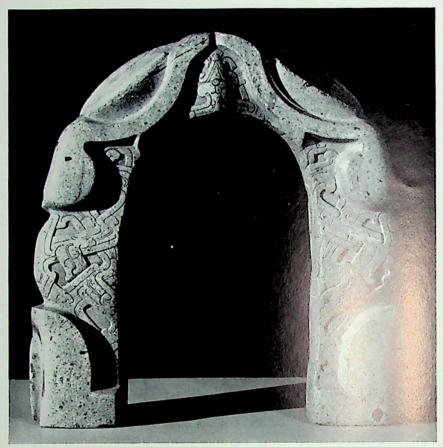
(A) Cerro de las Mesas, Stela 6, c. 200. Basalt



(B) Stone blade (hacha) from central Veracruz, fourth century(?) Washington, National Gallery, Bliss Collection



(A) Crested marble head from southern Veracruz, second century (?)
Washington, National Gallery, Bliss Collection



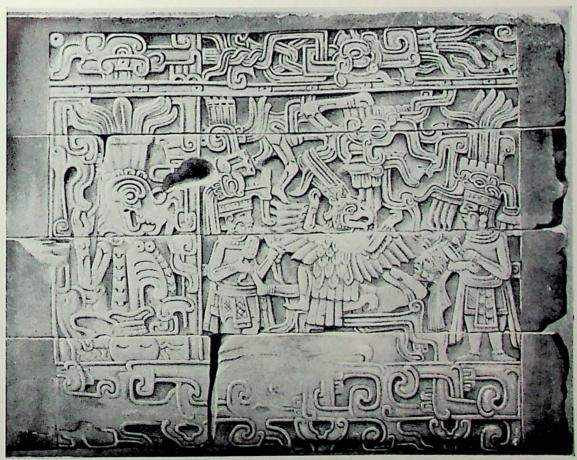
(A) Stone yoke from Veracruz, third or fourth century (?)
New York, American Museum of Natural History



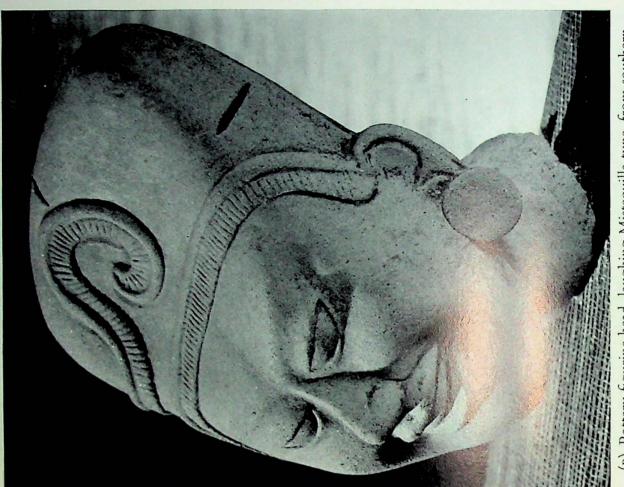
(B) Palmate stone from central Veracruz, ninth century(?) Cleveland Museum of Art, Tishman Collection

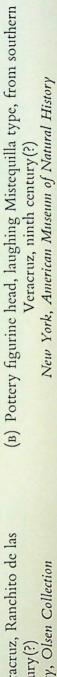


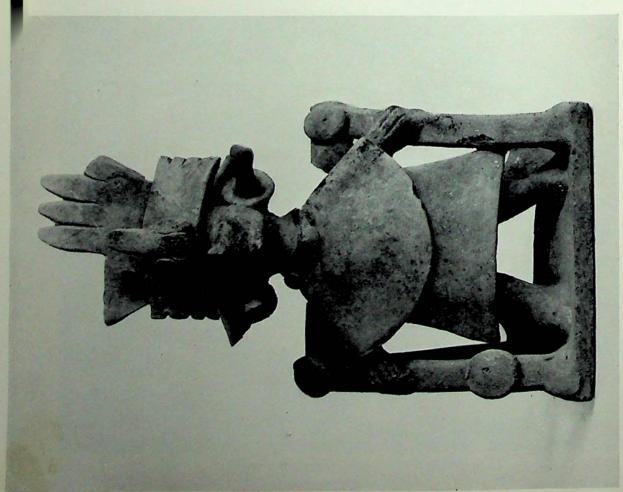
(A) Tajín, main ball-court, north-east panel, sacrifice scene, late ninth century



(B) Tajín, main ball-court, south-west panel, eagle warrior ritual, early ninth century(?)



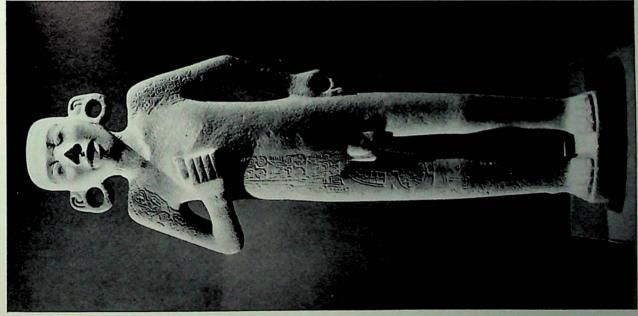




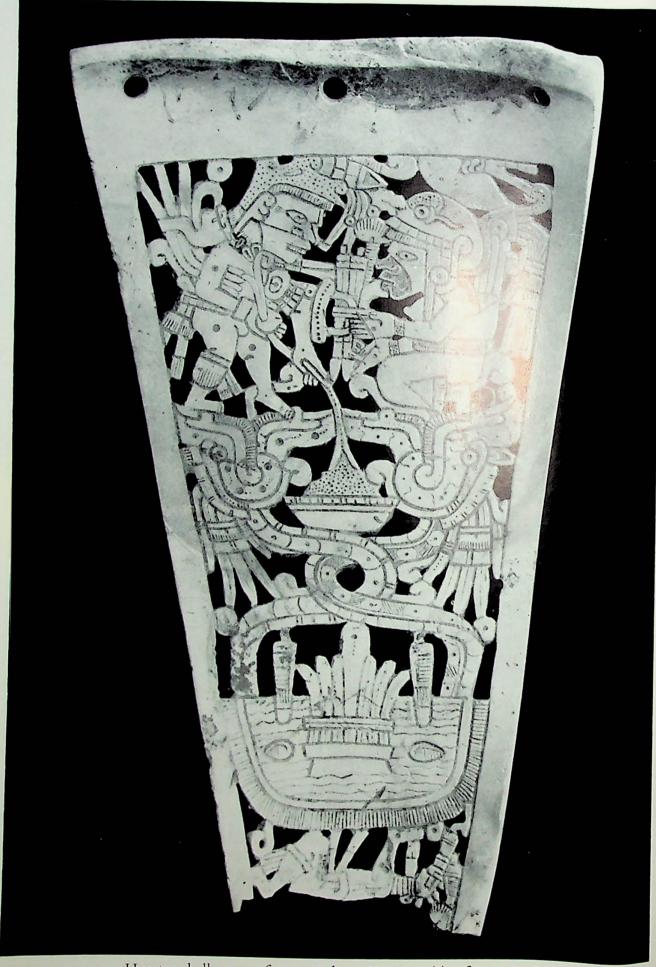
(A) Seated pottery figure from central Veracruz, Ranchito de las Animas type, second century(?)

New Haven, Yale University Art Gallery, Olsen Collection





Huastec stone statue from Tamuín, after 1000. Mexico City, Museo Nacional de Antropología

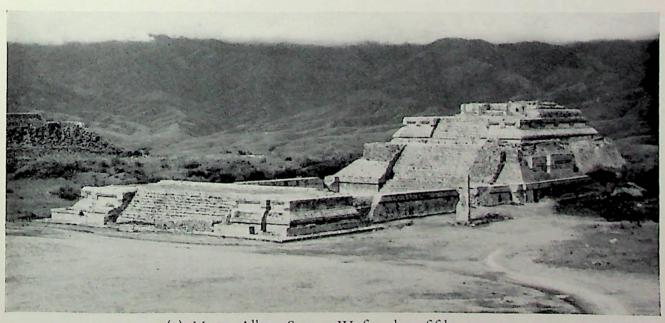


Huastec shell gorget from northern Veracruz(?), after 1000. New Orleans, Middle American Research Institute

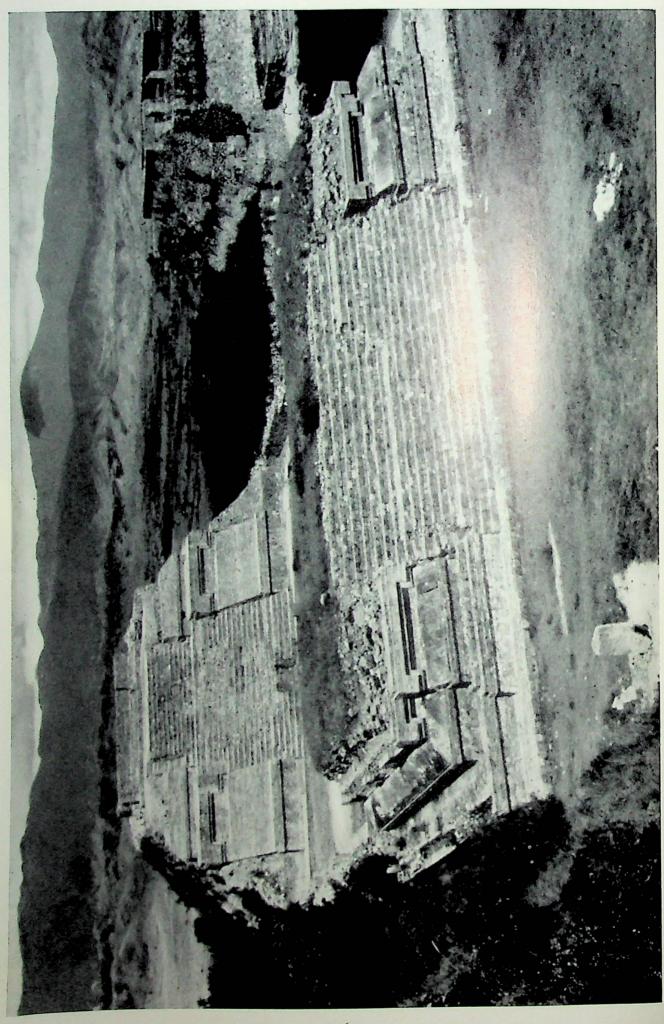


(A) Stone model of a temple from Monte Alban, fourth century(?)

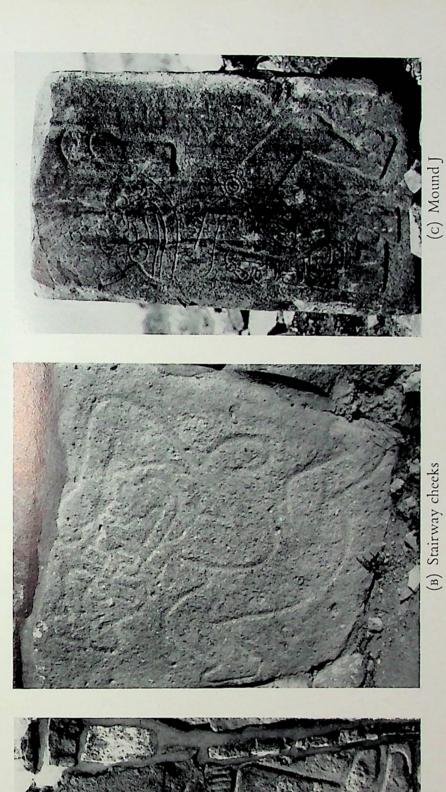
Mexico City, Museo Nacional de Antropología



(B) Monte Alban, System IV, fourth or fifth century

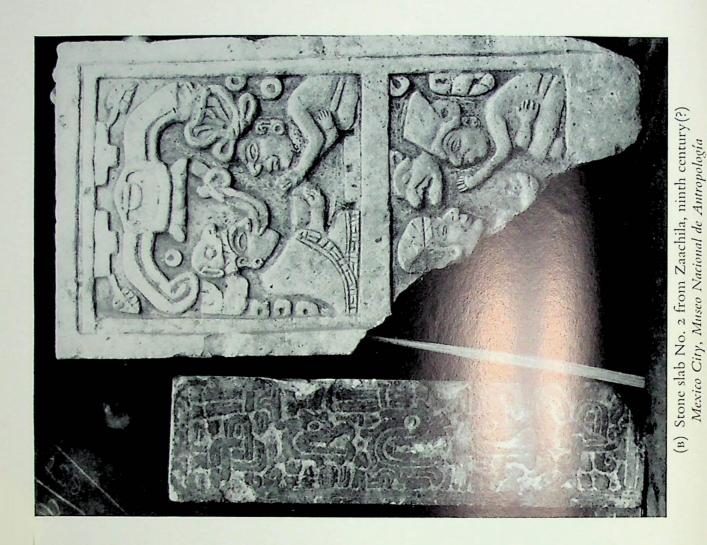


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(A) Pyramid base, Mound L

Monte Alban, architectural facing slabs carved in countersunk relief, 700-300 B.C.(?)





(A) Monte Alban, Stela 4, representing a man named Eight Deer, before 700. Stone. Mexico City, Museo Nacional de Antropología

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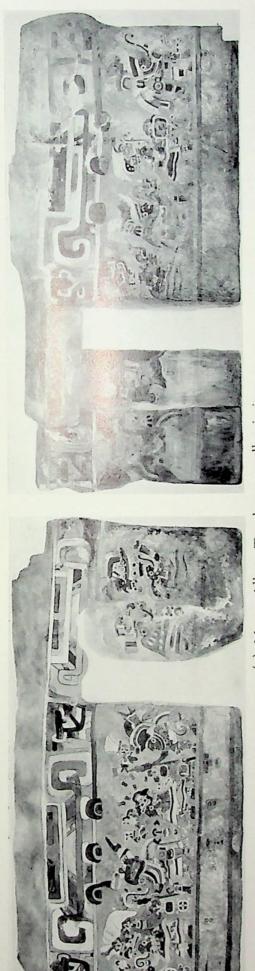
(B) Pottery urn, Monte Alban IIIb, c. 500. Mexico City, van Rhijn Collection



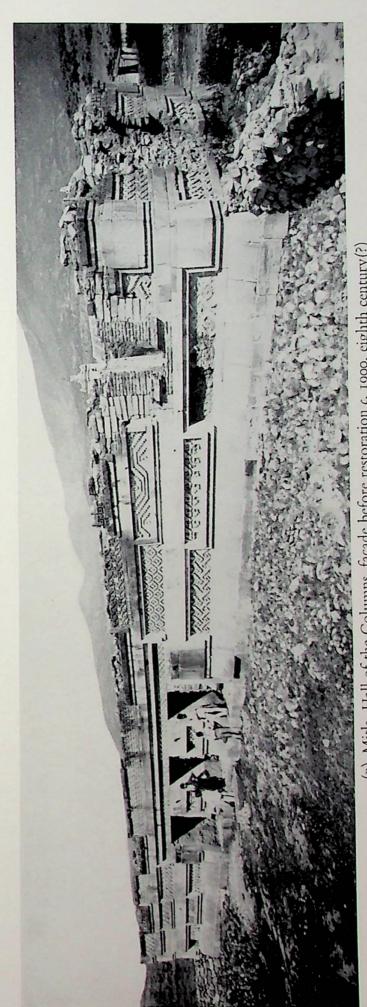
(A) Pottery urn, Monte Alban II, third century B.C.(?)

Mexico City, Museo Nacional de Antropología

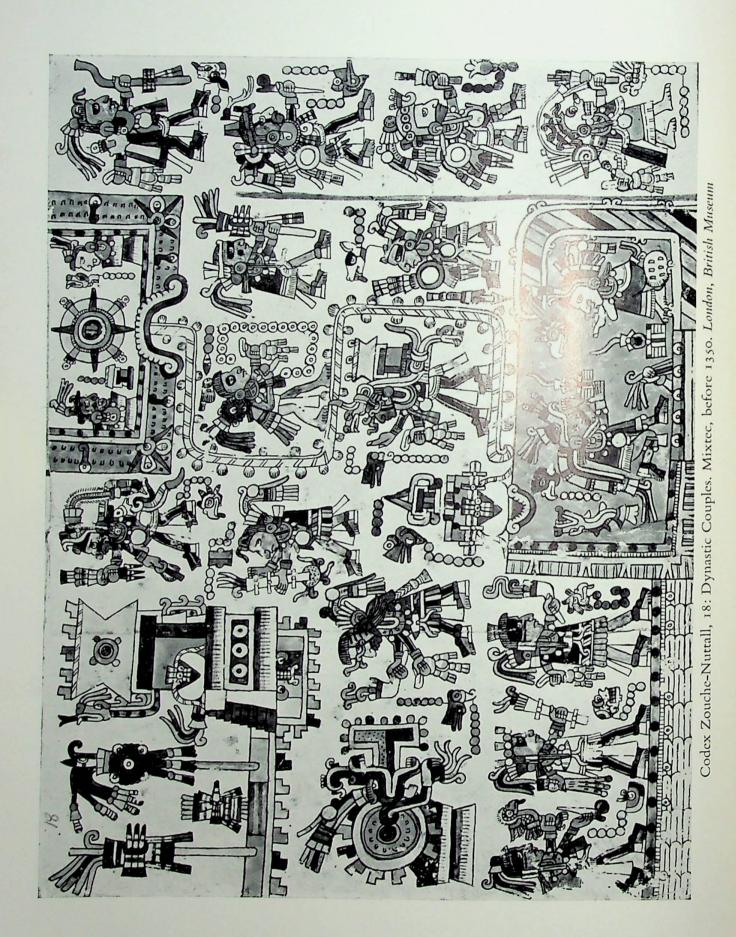
Monte Alban, Tomb 104, end wall and niches with wall painting, c. 500



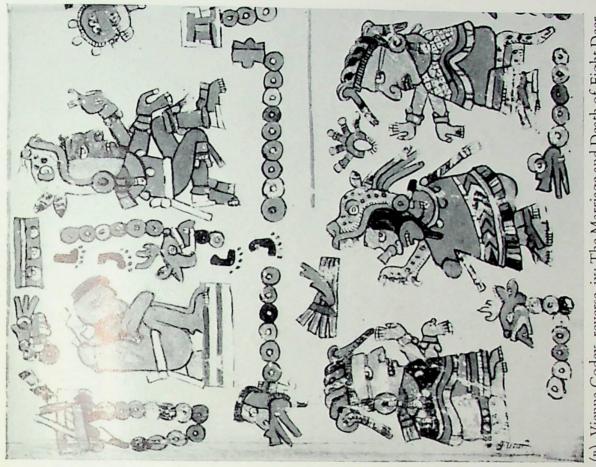
(A) Monte Alban, Tomb 105, wall painting, c. 500



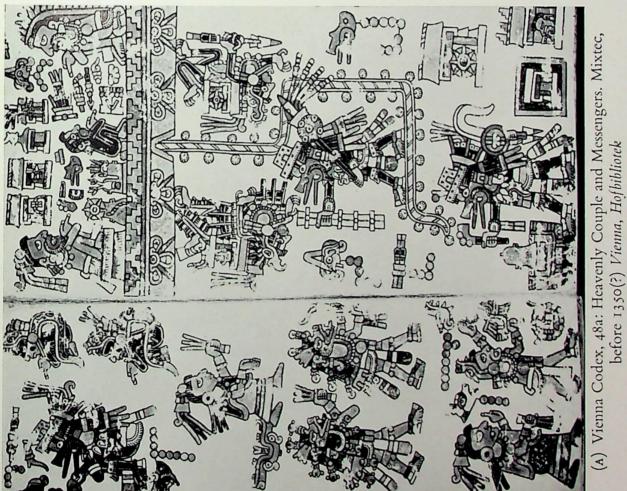
Mitla, Hall of the Columns, façade before restoration 6, 1900, eighth century(?) (B)



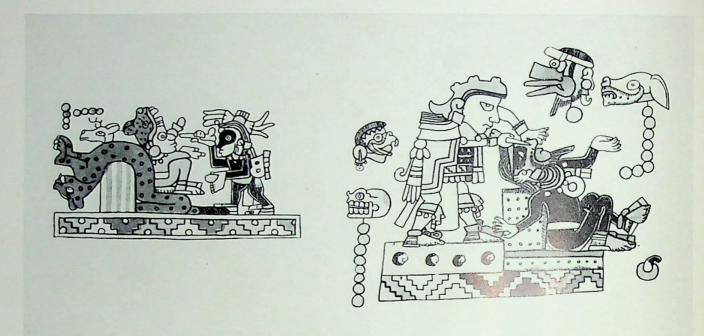
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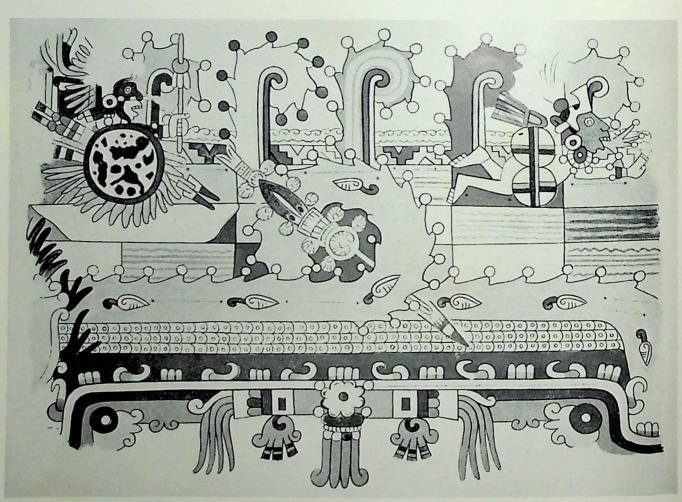
(B) Vienna Codex, reverse, ix: The Marriage and Death of Eight Deer (eleventh century). Mixtec, after 1350. Vienna, Hofbibliotek



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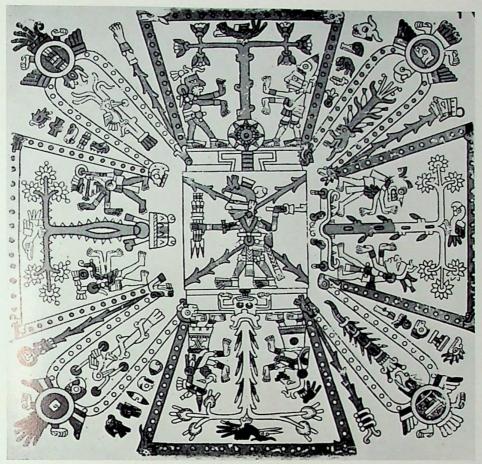


(A) Eight Deer receiving honours of rank, according to Codex Bodley (Oxford) and Codex Zouche-Nuttall (London, British Museum)

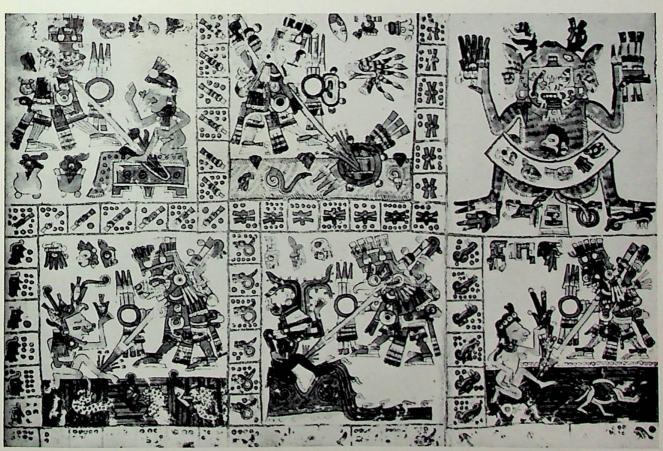


(B) Codex Colombino: Travellers crossing a Body of Water. Mixtec, before 1350(?)

Mexico City, Museo Nacional de Antropología

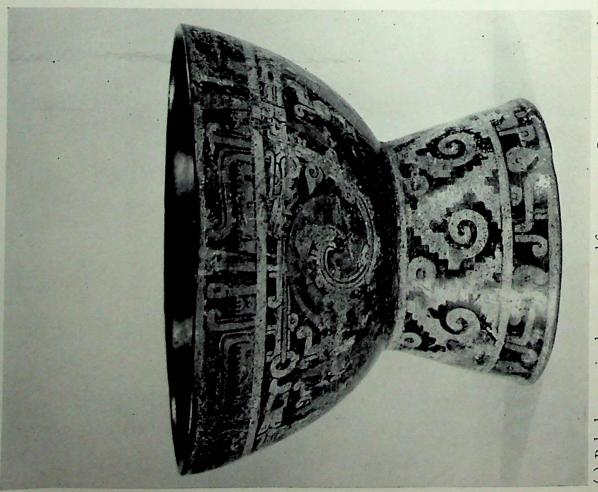


(A) Codex Féjerváry-Mayer, 1: The Five World Regions. Mixtec, before 1350(?) Liverpool, Free Public Museum, Mayer Collection



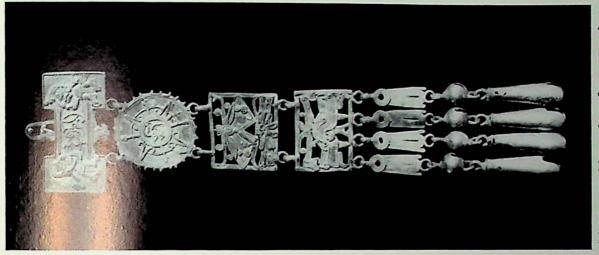
(B) Codex Borgia, 53-4: The Five Venus Periods. Fifteenth century (?) Rome, Vatican Library



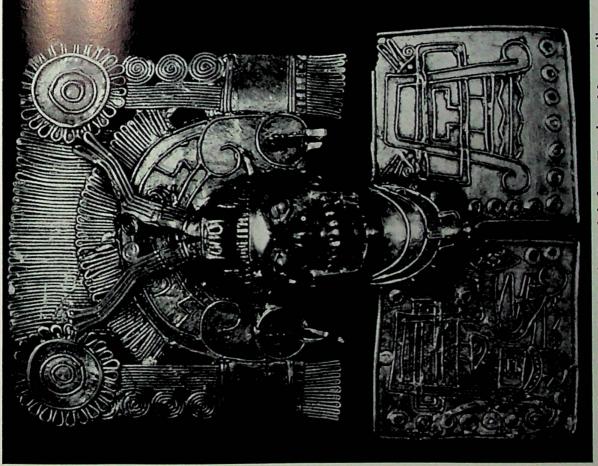


(A) Polychrome tripod pottery vessel from western Oaxaca, Mixtec style, after 1000. Cleveland Museum of Art, Severance Collection

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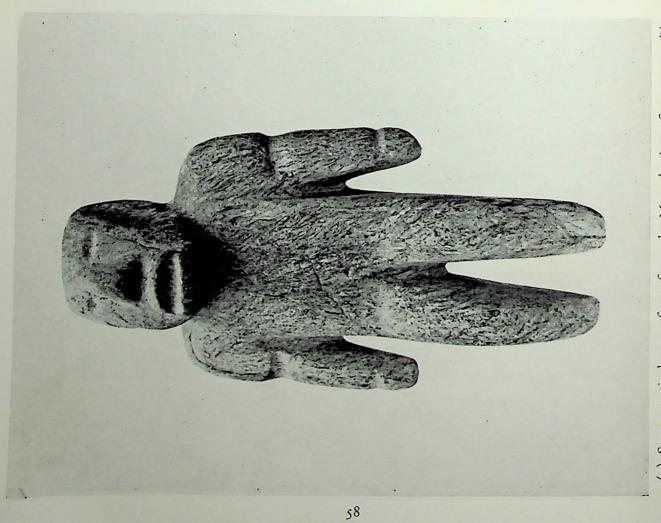
(B) Cast gold pendant from Tomb 7, Monte Alban, c. 1000(?) Oaxaca, Museo Regional



(A) Gold pendant, the 'Death Knight', from Tomb 7, Monte Alban, c. 1000(?) Oaxaca, Museo Regional



(B) Stone face panel from the state of Guerrero, c. 500(?) New Haven, Yale University Art Gallery, Olsen Collection

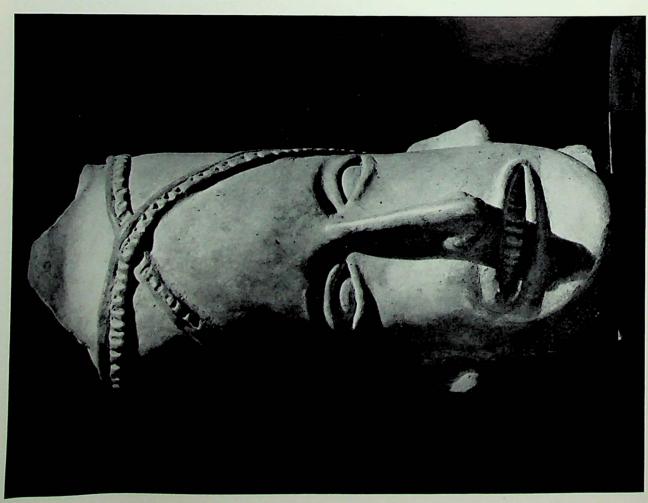


(A) Stone axe in human form from the Mezcala river, first century(?) New Haven, Yale University Art Gallery, Olsen Collection

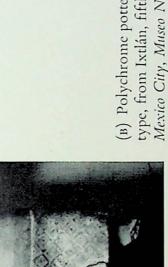


Pottery group of dancers from Colima, first century(?) Mexico City, Museo Nacional de Antropología

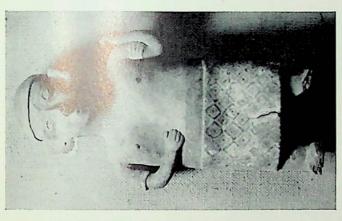




(A) Long-headed pottery figure from the Ameca Valley, fifth century (?) Philadelphia, Museum of Art, Arensberg Collection



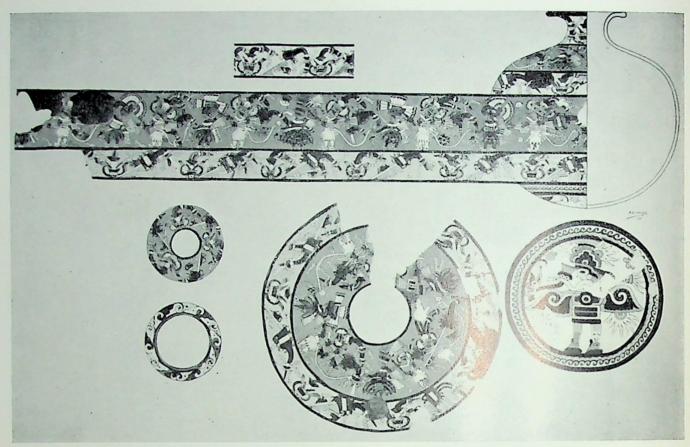
(B) Polychrome pottery figure, round-headed type, from Ixtlán, fifth-sixth centuries(?) Mexico City, Museo Nacional de Antropología



(c) Pottery figurines from Chupícuaro, Museo Nacional de Antropología 500 B.C.-A.D. 500. Mexico City,



(A) Polychrome pottery figure, long-headed type, from the vicinity of Ixtlán, fifth-sixth centuries(?) New Haven, Yale University Art Gallery, Olsen Collection



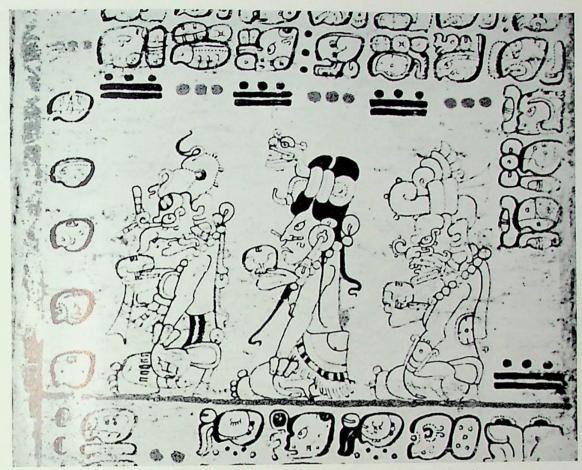
(A) Spherical polychrome pottery vessel from Jiquilpan, sixth-seventh centuries(?)

Mexico City, Museo Nacional de Antropología

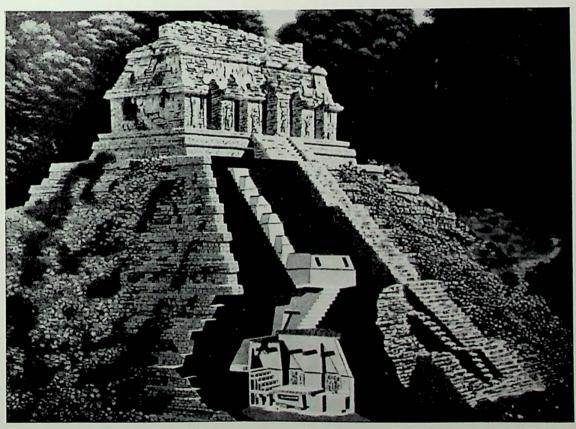


(B) Painted pottery bowl from Guasave, fourteenth century.

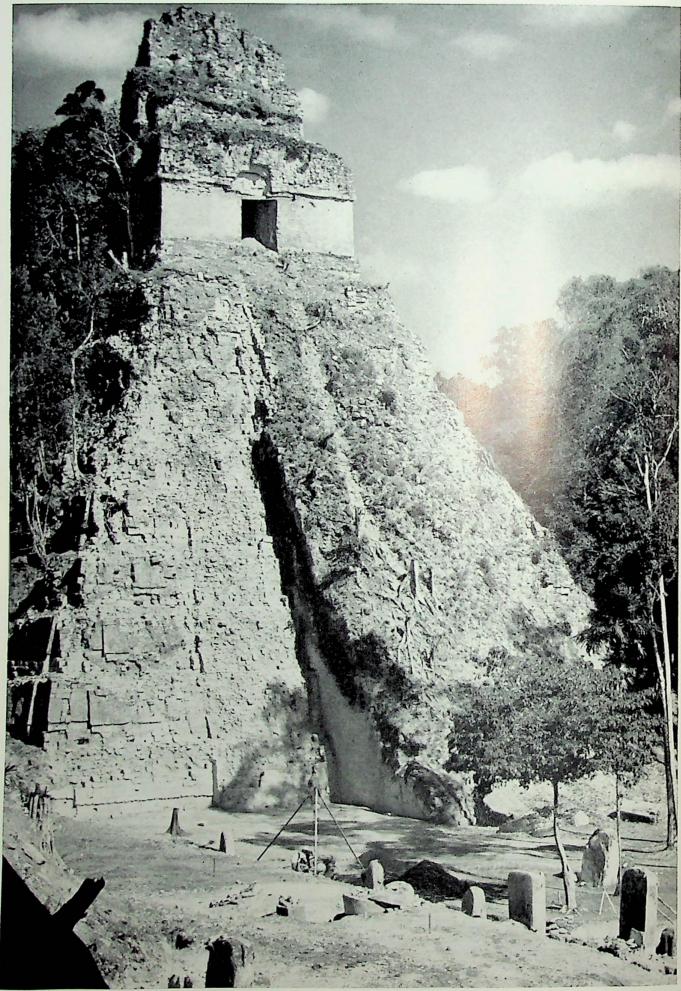
New York, American Museum of Natural History



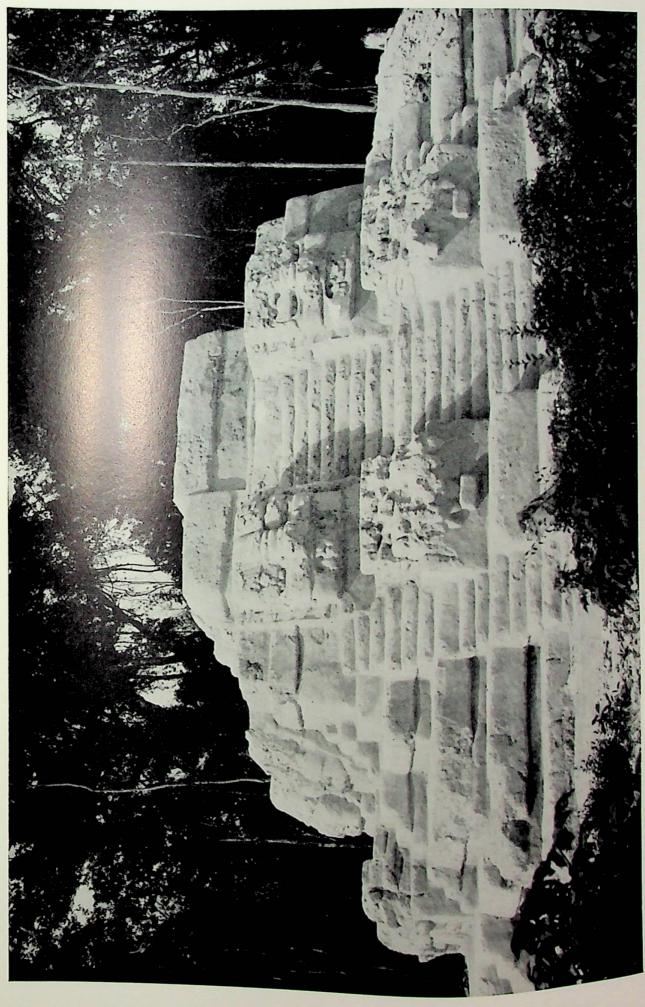
(A) Dresden Codex: 260-day ritual calendar, c. 1000(?) Formerly Dresden, Staatsbibliotek

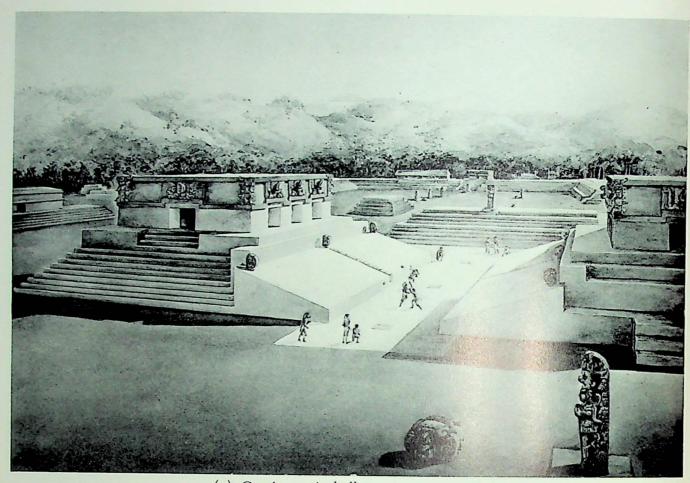


(B) Palenque, Temple of Inscriptions with section showing crypt, sixth century

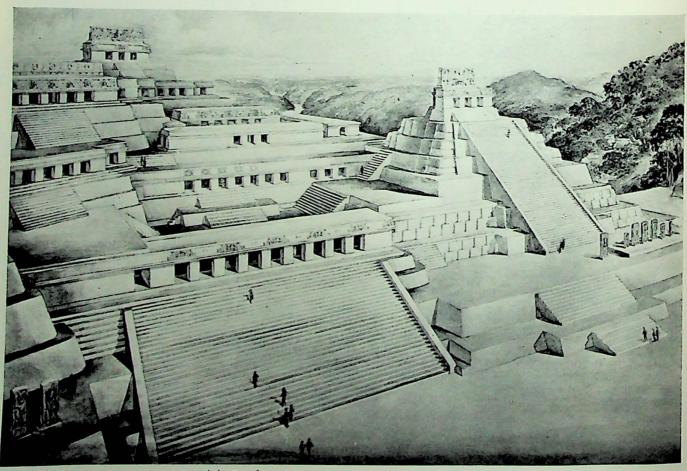


Tikal, Temple 1 (Giant Jaguar), before 600

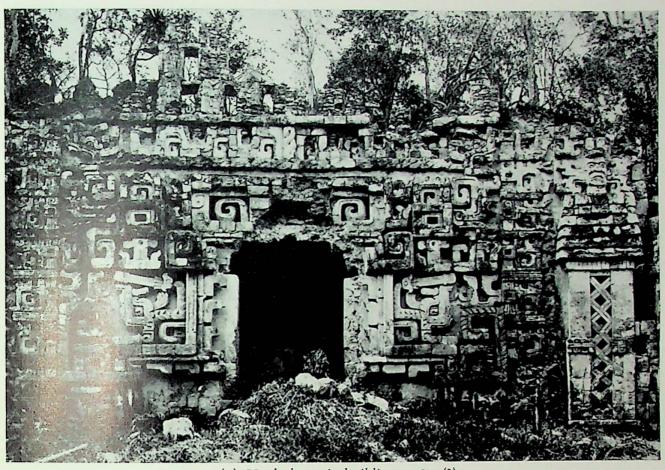




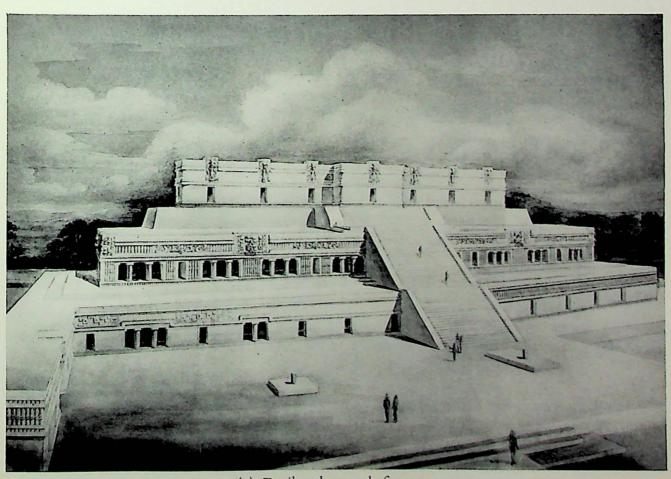
(A) Copán, main ball-court, as in c. 600



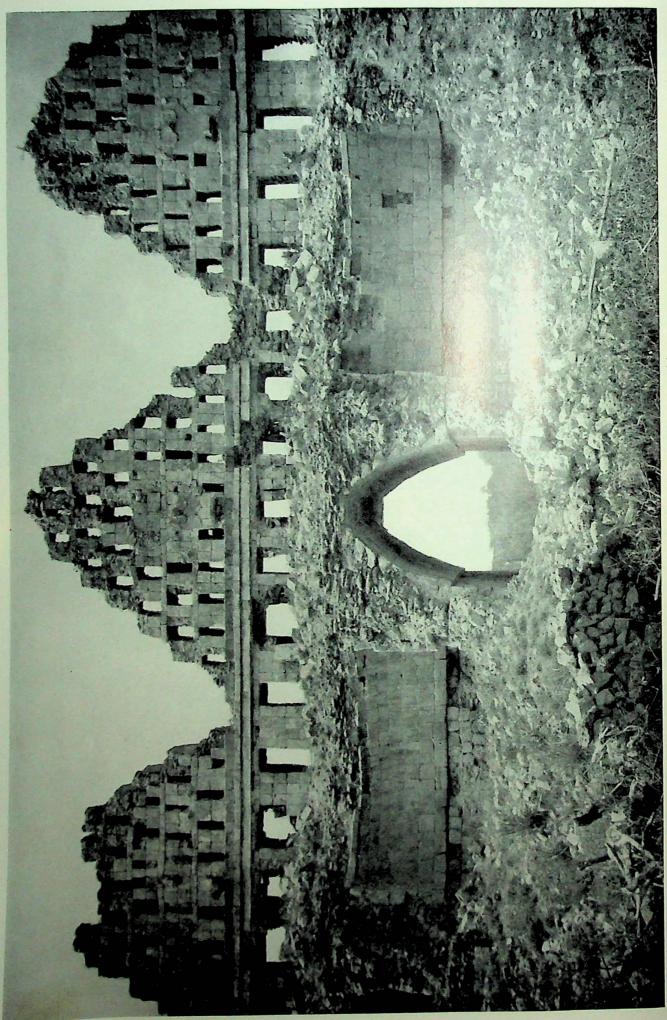
(B) Piedras Negras, acropolis, as in c. 600

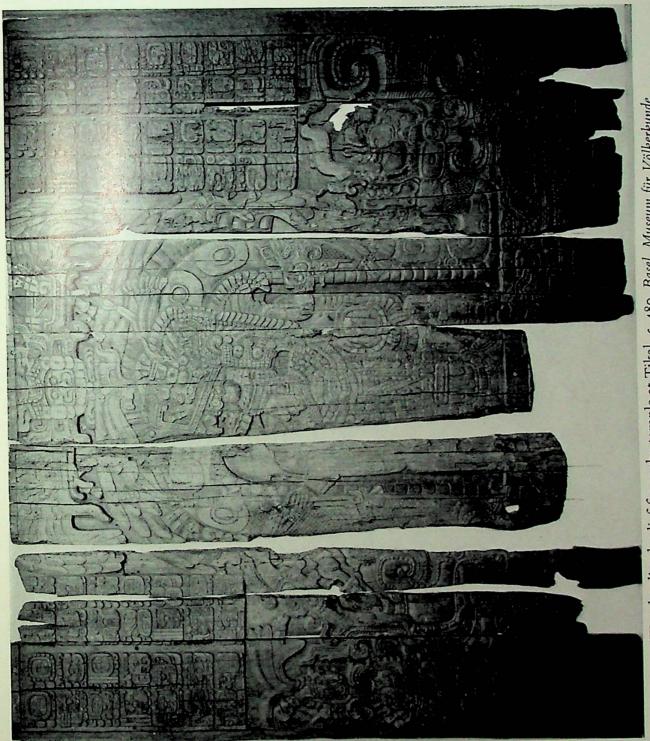


(A) Hochob, main building, c. 800(?)



(B) Zayil, palace, as before 1000





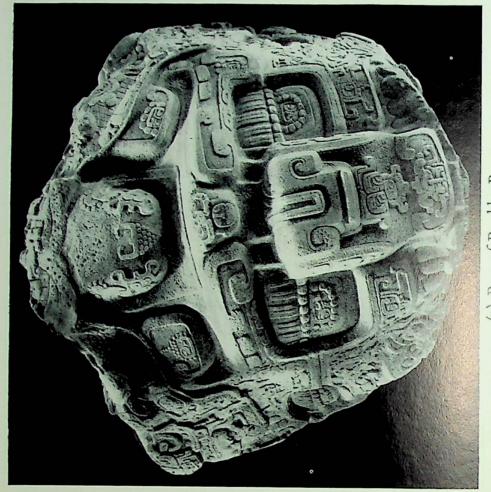
Wooden lintel relief from the temple at Tikal, c. 480. Basel, Museum für Völkerkunde



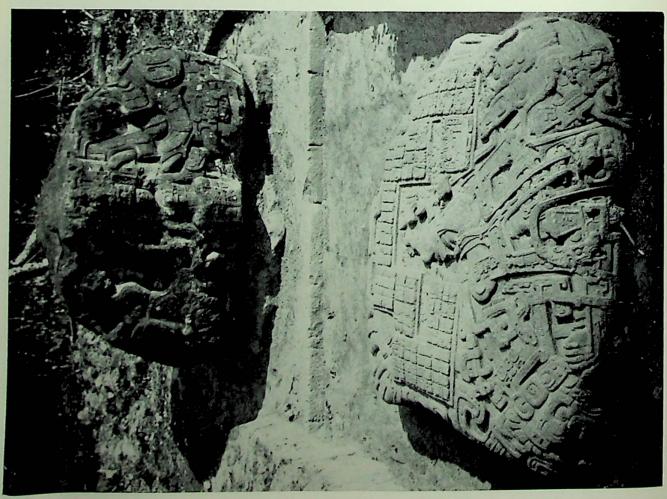
Copán, Stela N, c. 500. Trachyte



Quiriguá, Stela E, c. 510. Sandstone



(B) Rear of Boulder P



(A) Quiriguá, Boulder (Zoomorph O) and Altar, c. 520. Sandstone

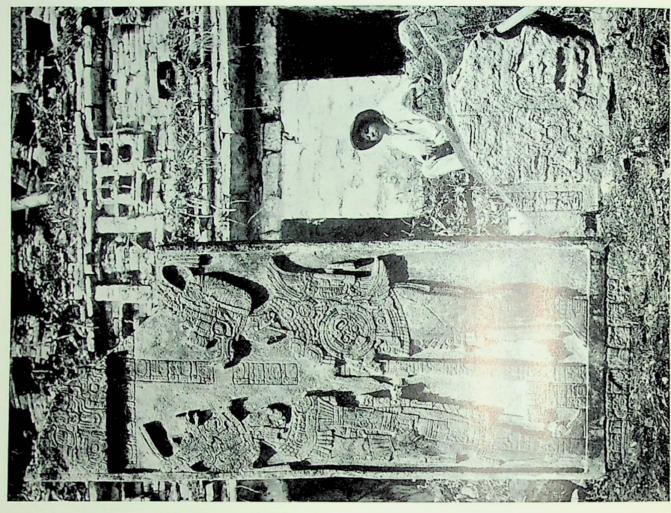
Wall panel ('Lintel' 3) from Piedras Negras, c. 501. Limestone. Guatemala, Museo Nacional

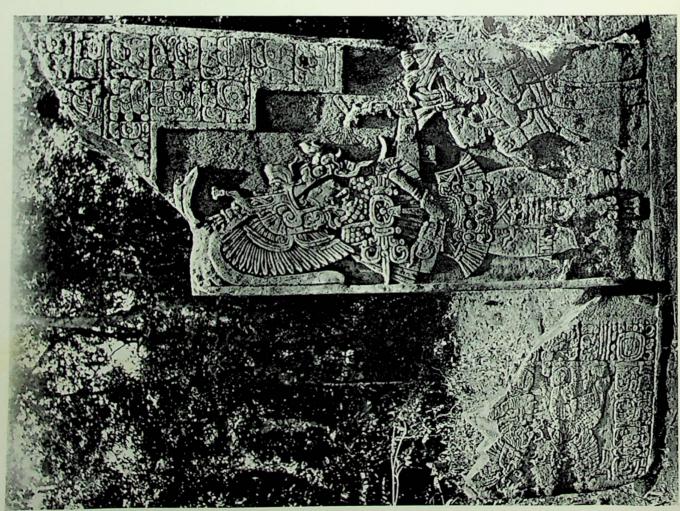


Stela 12 from Piedras Negras, c. 510. Limestone. Guatemala, Museo Nacional



Stela 40 from Piedras Negras, c. 486. Limestone. Guatemala, Museo Nacional







Lintel 25 from Yaxchilán, c. 520. Limestone. London, British Museum

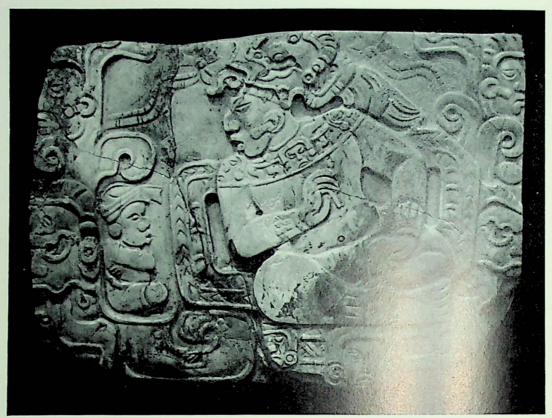


Stucco head from the Ruz tomb, Palenque, c. 450. Mexico City, Museo National de Antropología





Palenque, House C, stone reliefs,  $\epsilon$ . 410



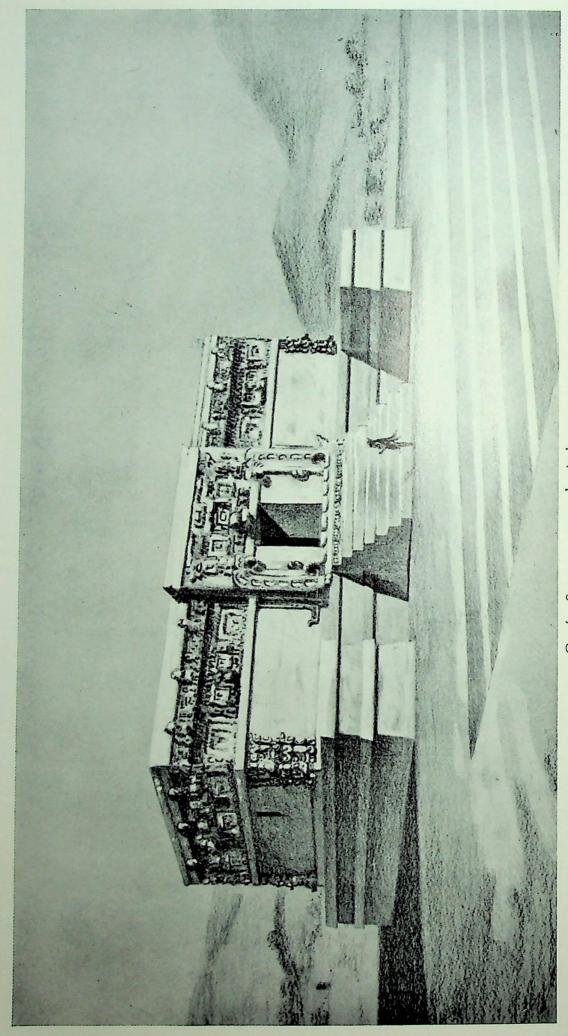
(A) Jade plaque from Nebaj, c. 600(?) Guatemala, Museo Nacional



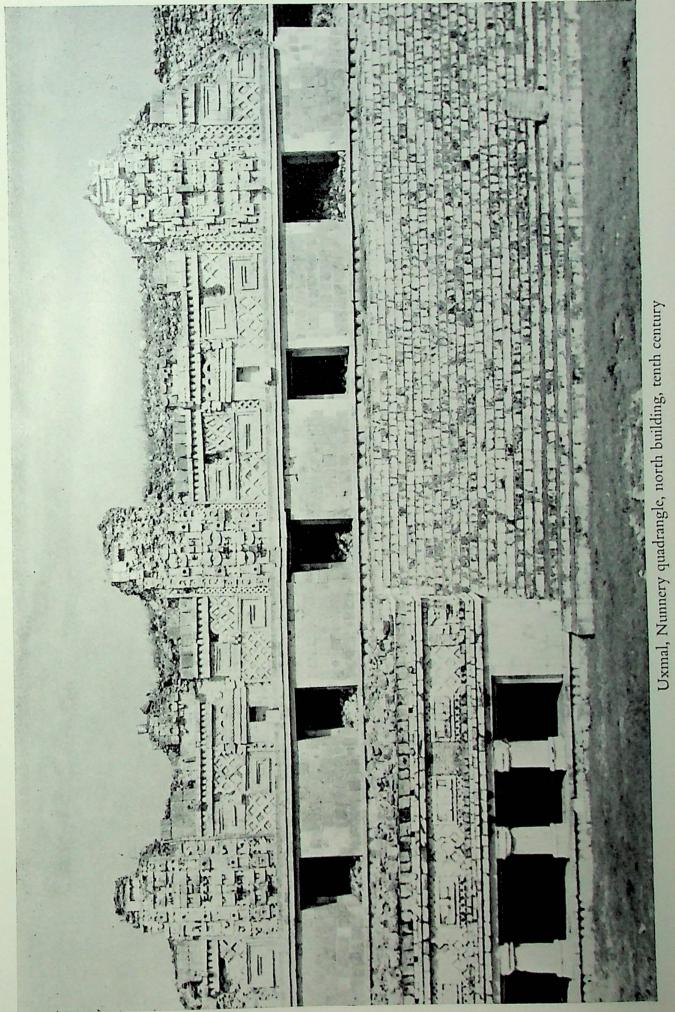
(B) Carved pottery vase from San Agustín Acasaguastlán, c. 700(?) New York, Museum of the American Indian



Painted pottery whistle figurine from Jaina Island, c. 500(?) Washington, National Gallery, Bliss Collection

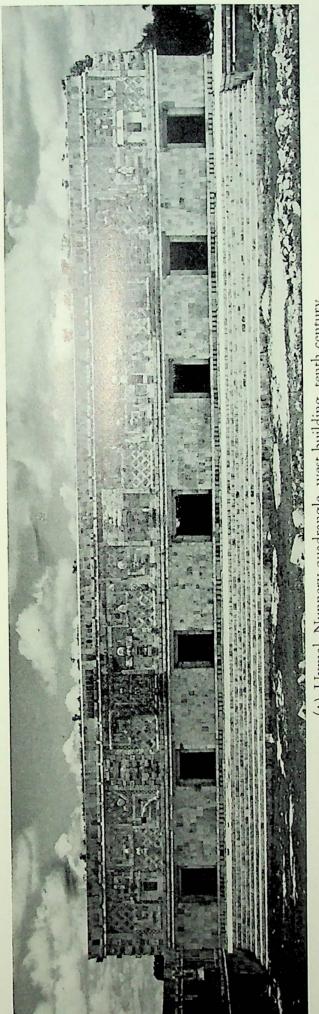


Copán, Structure 22, early sixth century

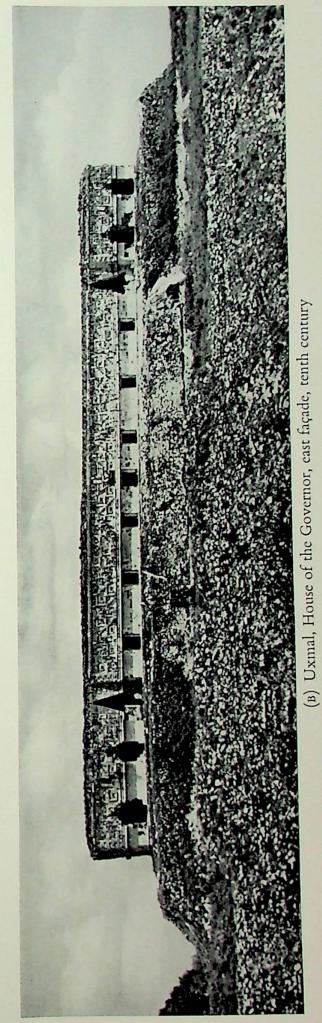


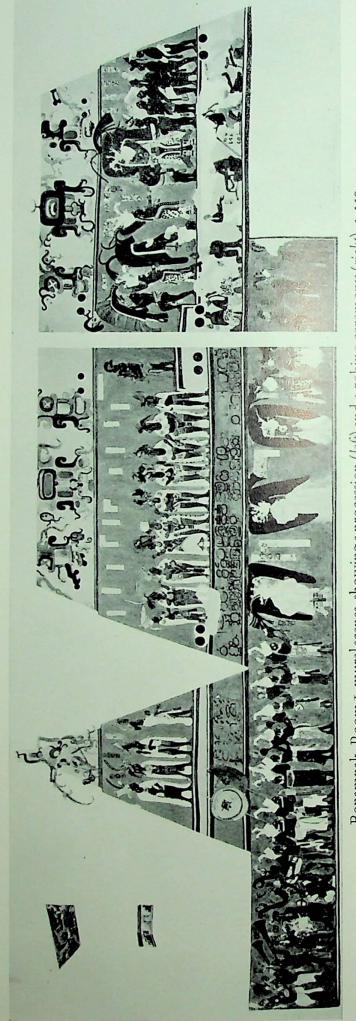
Uxmal, Nunnery quadrangle, east building, tenth century

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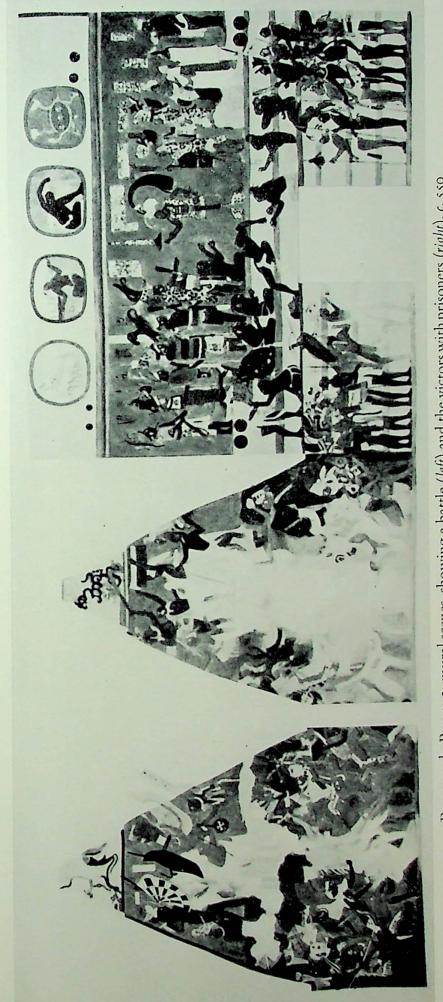


(A) Uxmal, Nunnery quadrangle, west building, tenth century

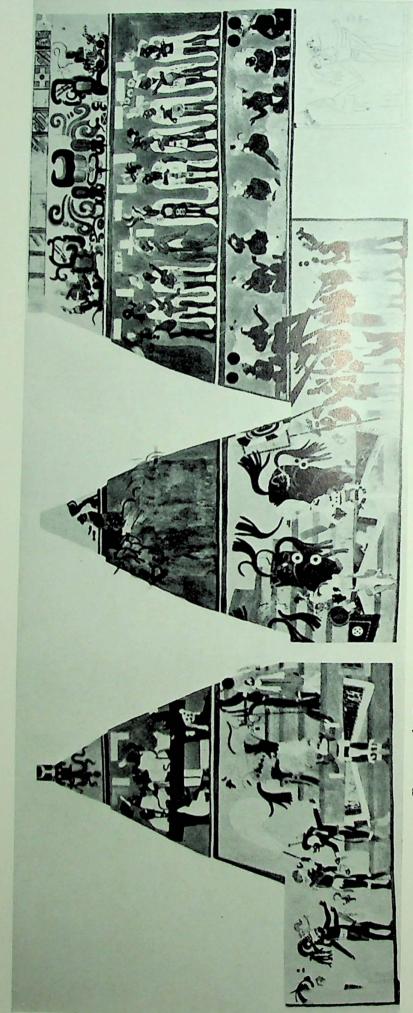




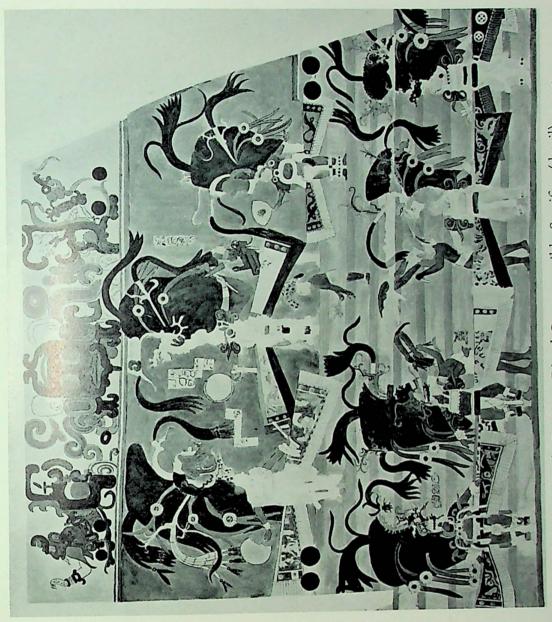
Bonampak, Room 1, mural scenes, showing a procession (left) and a robing ceremony (right), c. 550



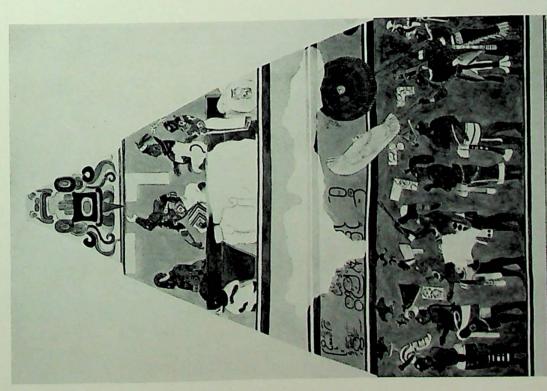
Bonampak, Room 2, mural scenes, showing a battle (left) and the victors with prisoners (right), c. 550



Bonampak, Room 3, mural scenes, showing dancers in costume and spectators, c. 550

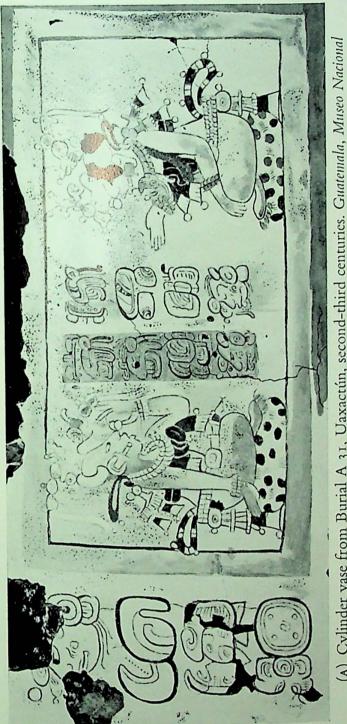


(B) Bonampak, Room 3, Ritual Game, possibly Sacrifice (detail), c. 550



(A) Bonampak, Room 1, The Ruling Family (detail), c. 550





(A) Cylinder vase from Burial A 31, Uaxactún, second-third centuries. Guatemala, Museo Nacional



(B) Tepeu 3 vase from Ratinlixul, Chamá style, sixth century. Philadelphia, University Museum

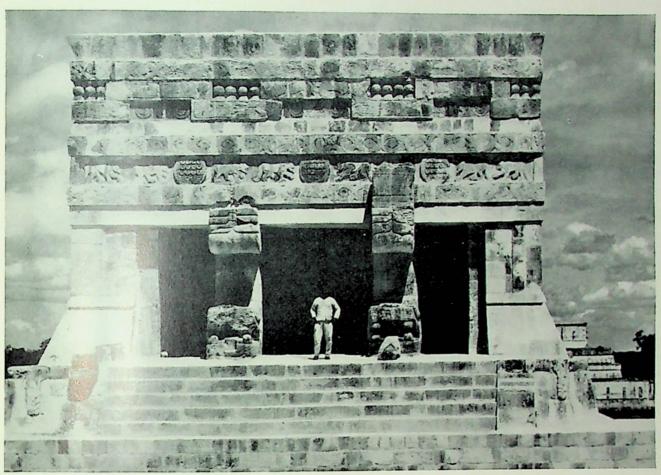


(A) Tepeu I tripod bowl showing a priestly dancer, from Uaxactún, fourth century.

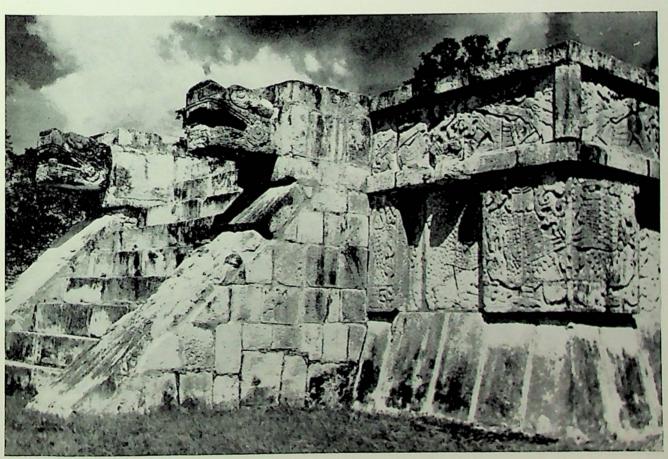
Guatemala, Museo Nacional



(B) Copador pottery vessel from Copán, seventh century. Cambridge, Mass., Harvard University, Peabody Museum



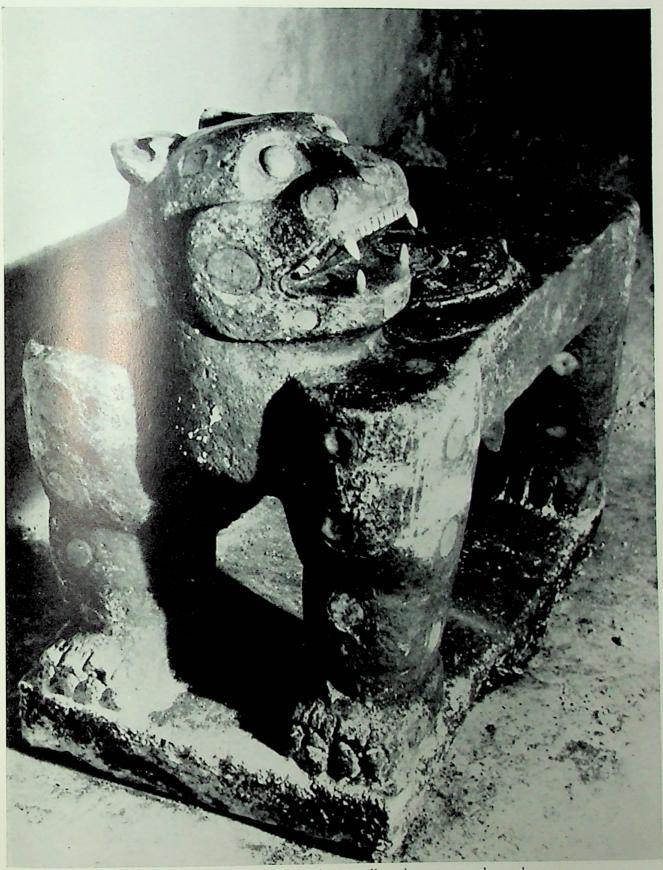
(A) Chichén Itza, upper Temple of the Jaguars, thirteenth century



(B) Chichén Itza, Platform of the Eagles, thirteenth century

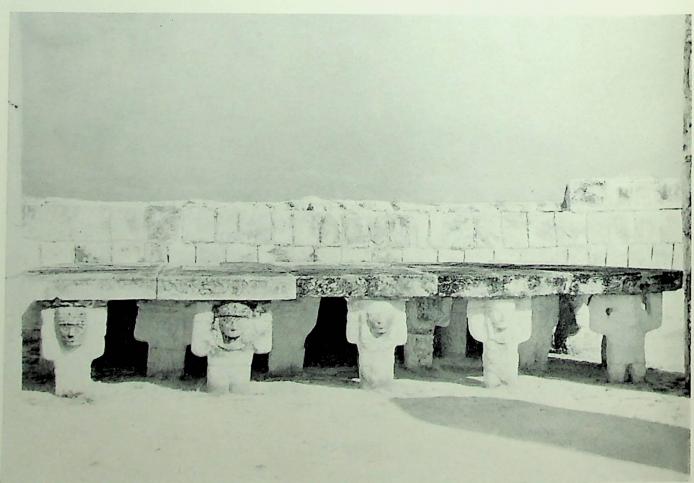


Chichén Itza, Temple of the Warriors, cella entrance, twelfth century

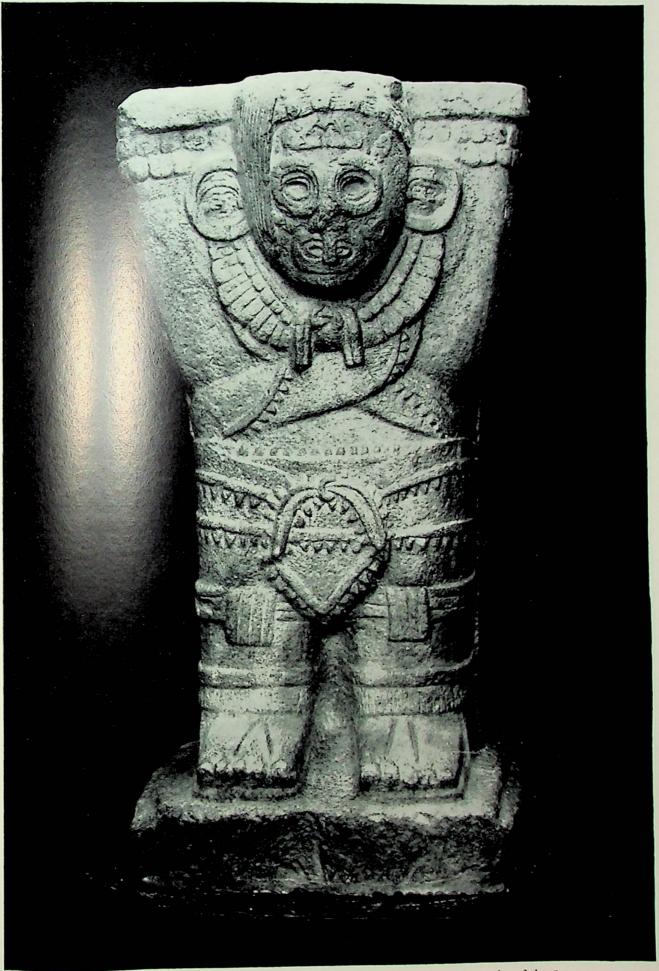


Chichén Itza, jaguar throne from the Castillo substructure, eleventh century.
Painted stone inlaid with jade

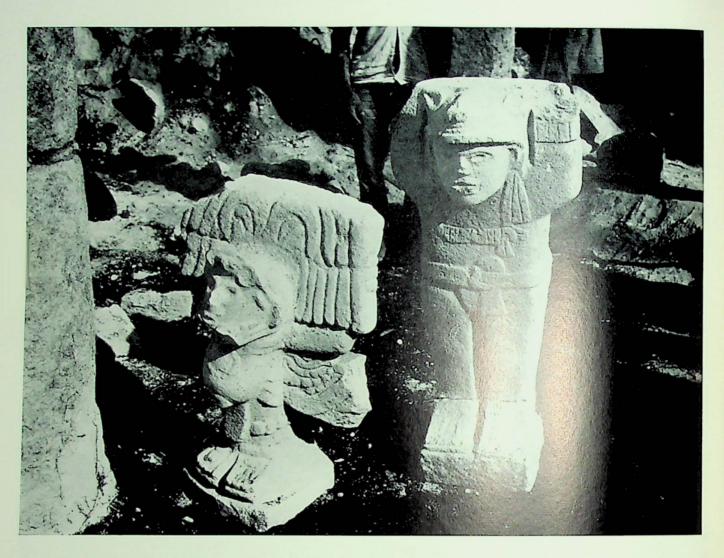




Chichén Itza, Atlantean figures of painted stone. (Above) from the Temple of the Tables, twelfth century; (below) from the Temple of the Warriors, twelfth century

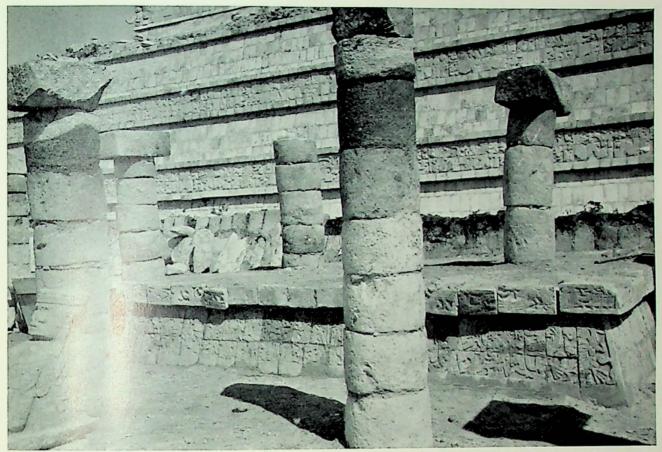


Atlantean figure of painted stone from Chichén Itza, upper Temple of the Jaguars, thirteenth century. Mexico City, Museo Nacional de Antropología

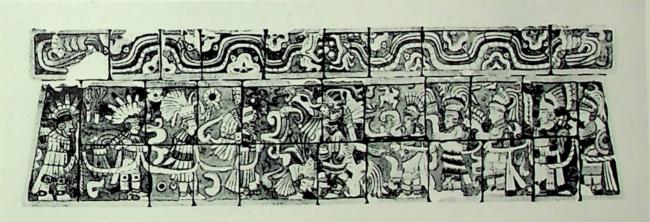




Chichén Itza, Atlantean figures of painted stone. (Above) from the south-east colonnade, thirteenth century; (below) from Structure 3C6, thirteenth century(?)



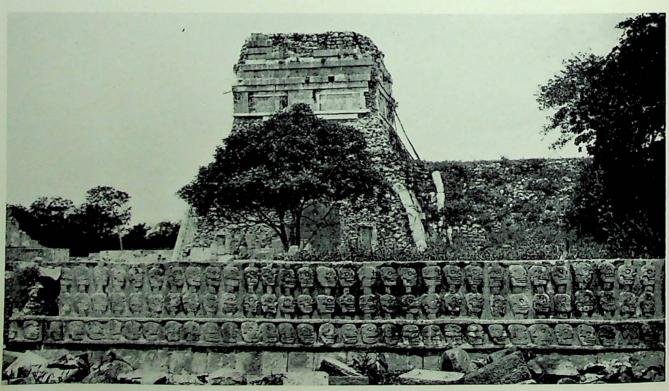
(A) Chichén Itza, north colonnade, limestone Chacmool figure (extreme left) and dais, thirteenth century



(B) Chichén Itza, Mercado Gallery, limestone processional relief on dais, c. 1200(?)



(A) Chichén Itza, south temple, ball-court, limestone pier base with serpent relief, twelfth century(?)



(B) Chichén Itza, skull-rack platform, thirteenth century. General view from east



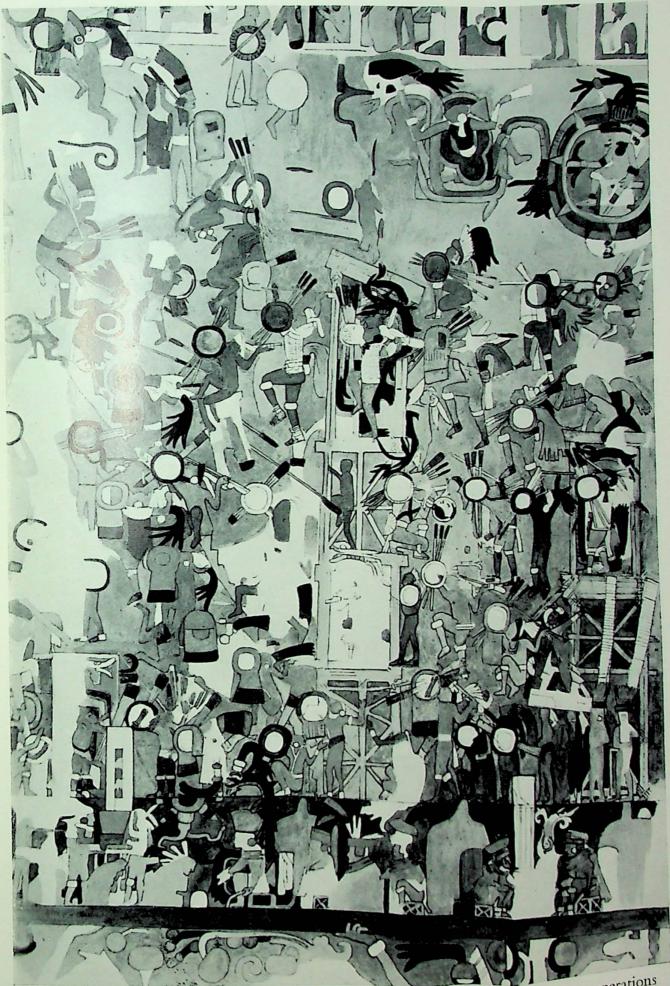
Chichén Itza, upper Temple of the Jaguars, limestone reliefs of Toltec warriors on door-jambs, thirteenth century



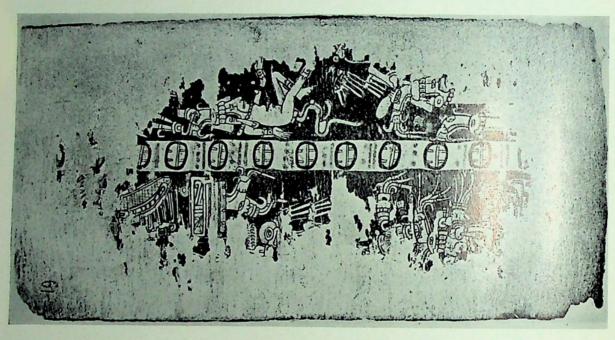
(A) Repousségold disk showing a battle at sea, from the Well of Sacrifice, Chichén Itza, thirteenth century. Mexico City, Instituto Nacional de Antropología e Historia



(B) Chichén Itza, Temple of the Warriors, wall painting of a sea-coast village, twelfth century

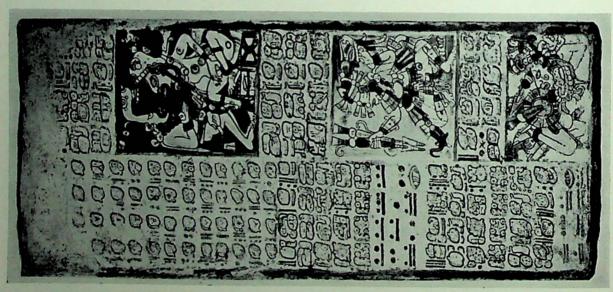


Chichén Itza, upper Temple of the Jaguars, inner room, south wall, painting of siege operations during a battle, thirteenth century



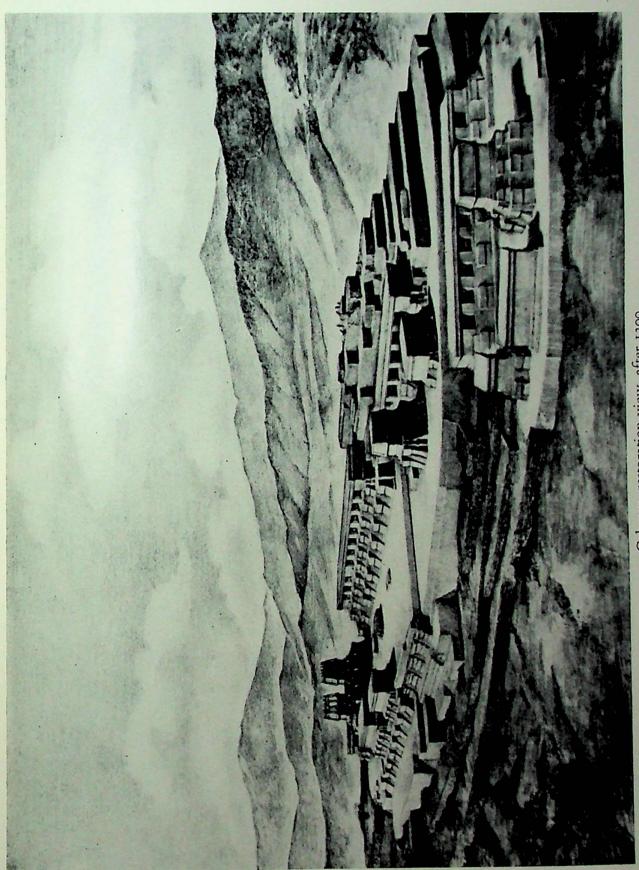
(B) Codex Peresianus: calendrical pages. After 1000.

Paris, Bibliothèque Nationale

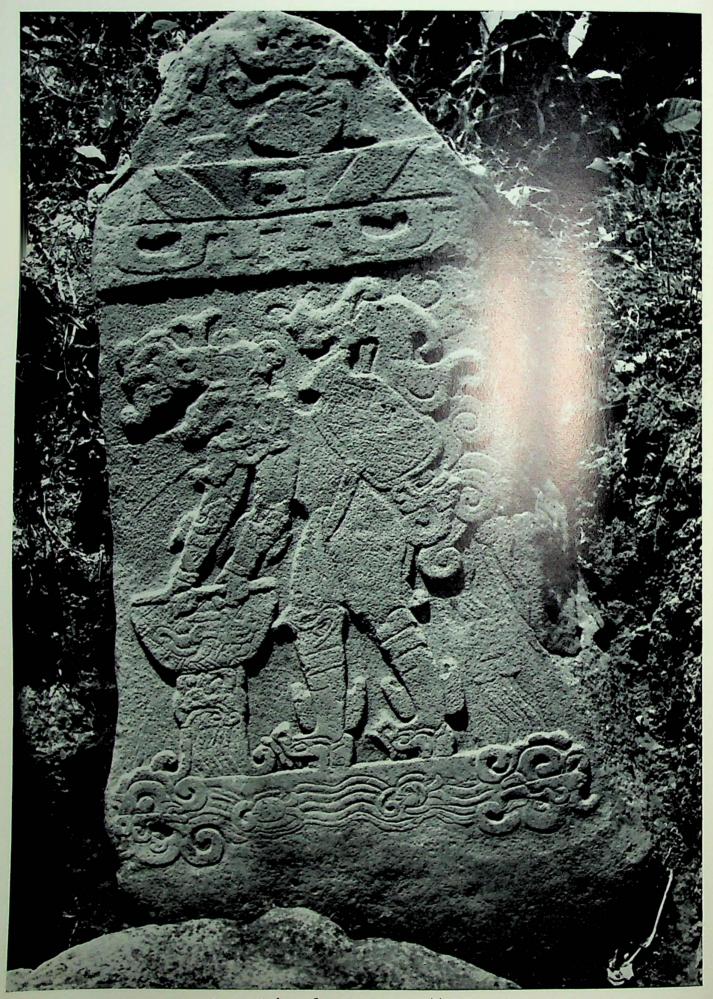


(A) Dresden Codex: pages treating of the combination of 8 solar years with 5 Venus years in a cycle of 2920 days, c. 1000(?)

Formerly Dresden, Staatsbibliotek



Cahyup, restoration view, after 1300



Izapa, Stela 1, first century B.C.(?) Stone



Stela B from Kaminaljuyú, second century(?) Stone.

Guatemala, Museo Nacional



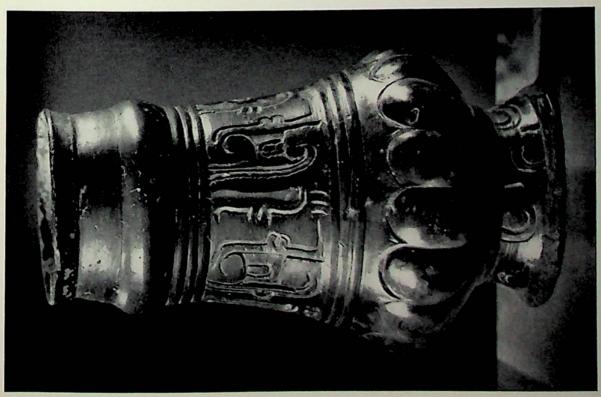
(B) Monument 21 from Santa Lucía Cozumalhuapa, after 1000(?) Stone. Berlín, Museum für Völkerkunde

(A) Monument 3 from Santa Lucía Cozumalhuapa, c. 1000(?) Stone. Berlin, Museum fir Völkerkunde





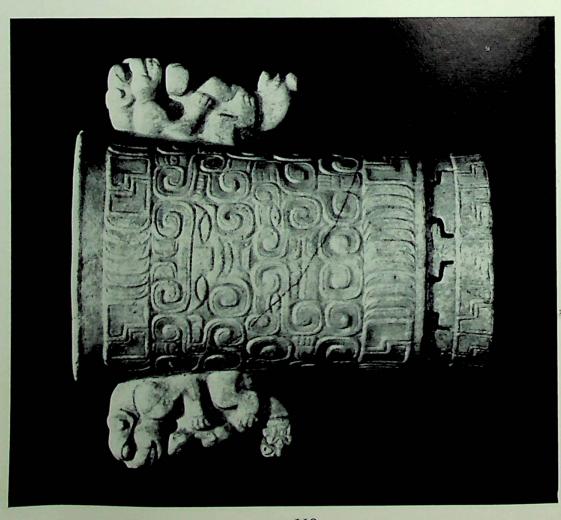
(B) Head vessel, plumbate pottery, Tohil phase, twelfth-thirteenth centuries. New York, American Museum of Natural History



(A) Pyriform vase, plumbate pottery, from the Campeche Coast, tenth century. New Haven, Yale University
Art Gallery, Olsen Collection

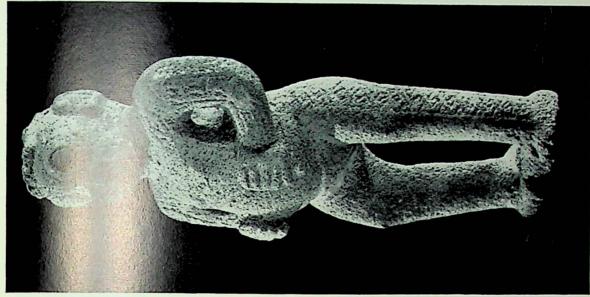


(B) Stone vase from the Plantain river, ninth or tenth century. Cambridge, Mass., Harvard University, Peabody Museum



(A) Travertine vase from the Ulúa Valley, ninth century(?)

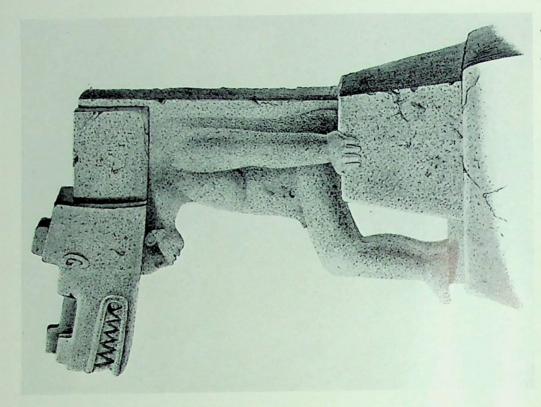
Philadelphia, University Museum



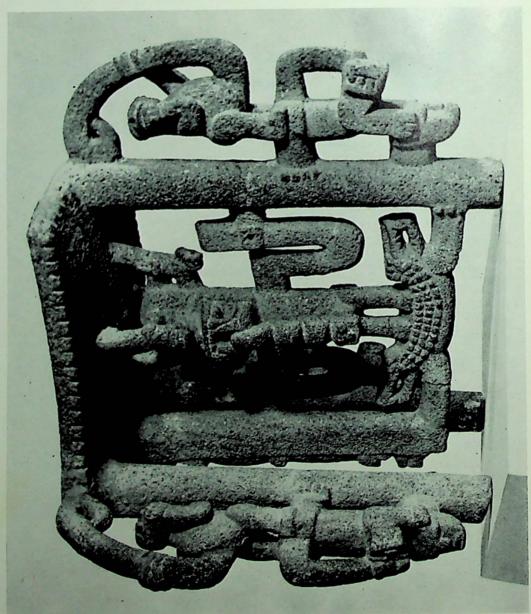
(B) Monkey woman, Palmar style, c. 1000. Stone. New York, American Museum of Natural History



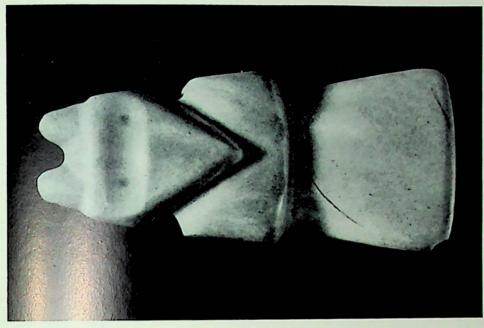
(A) Stone slab figure, Palmar style, from southern Costa Rica, c. 1000. Baltimore Museum of Art, Wurtzburger Collection



(B) Zapatera Island, Lake Nicaragua, stone pedestal statue of a guardian spirit, c. 1200(?)



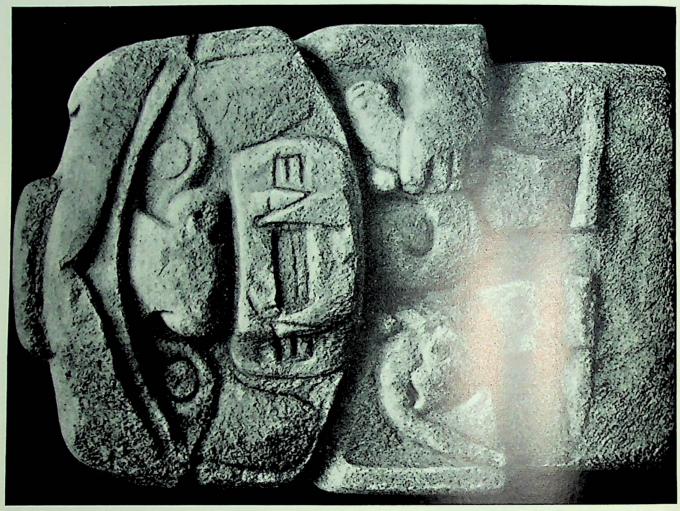
(A) Stone food-grinding table from San Isidro Guadalupe, eleventh century (?)
San José, Museo Nacional



(B) Jade knife of stylized bird shape from the Nicoya peninsula, seventh century(?)Washington, National Gallery, Bliss Collection

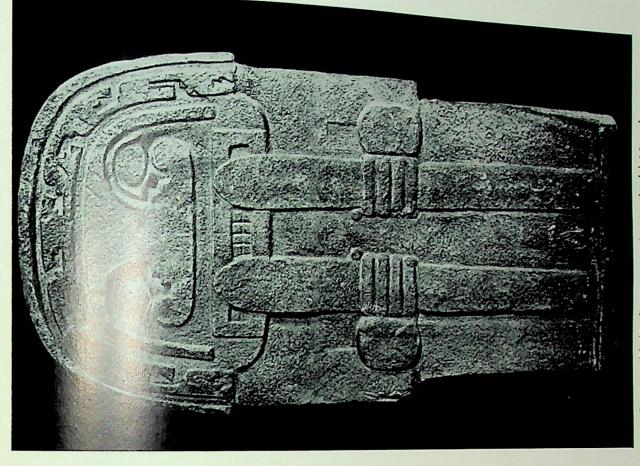


(A) Man-jaguar vessel, Nicoya polychrome pottery, seventh or eighth century (?)



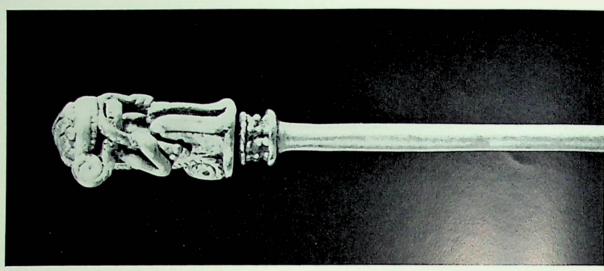


Stone shrine and tomb figures from the San Agustín region in Colombia, before 700(?) (Left) Eyehook type; (right) Beetle-browed type

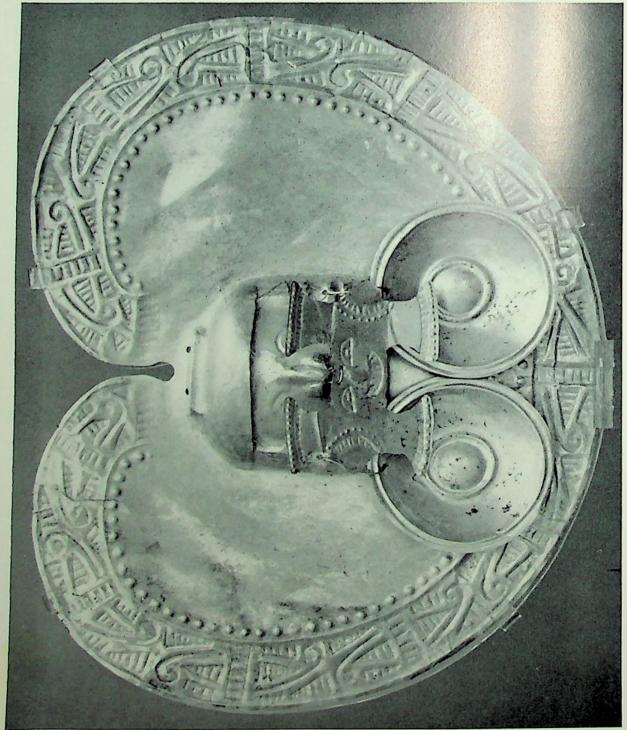




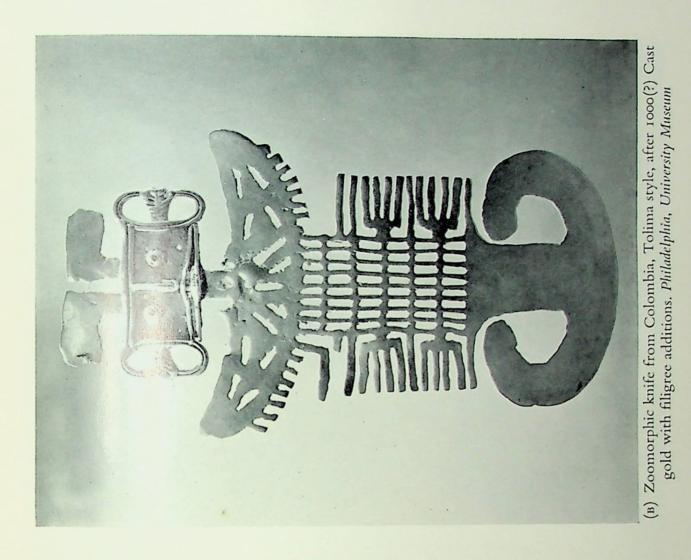
Stone shrine and tomb figures from the San Agustín region in Colombia, before 700(?) (Left) Ox-yoke brow; (right) Nose-brow type

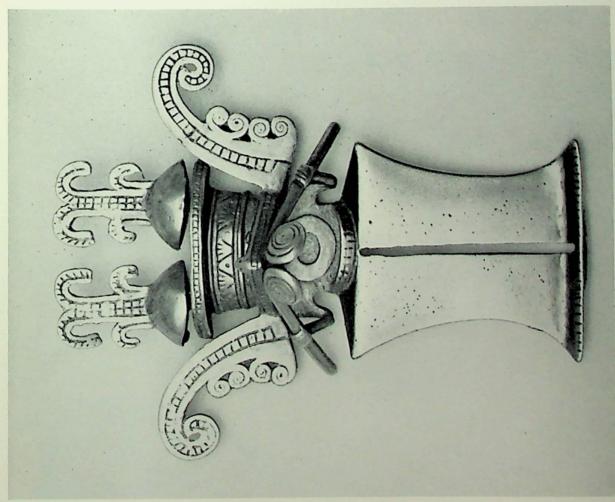


(B) Cast gold pin-head showing a monkey cating a snake, from Colombia, Calima style, 700–1000(?). New York, Museum of Primitive Art

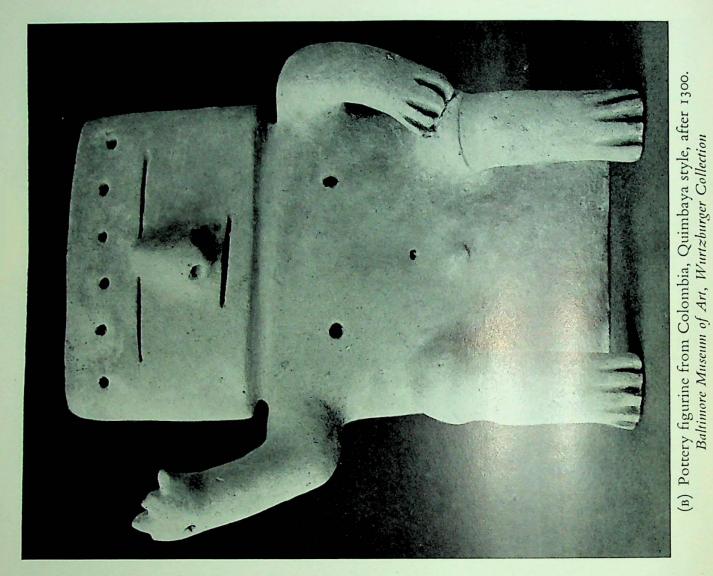


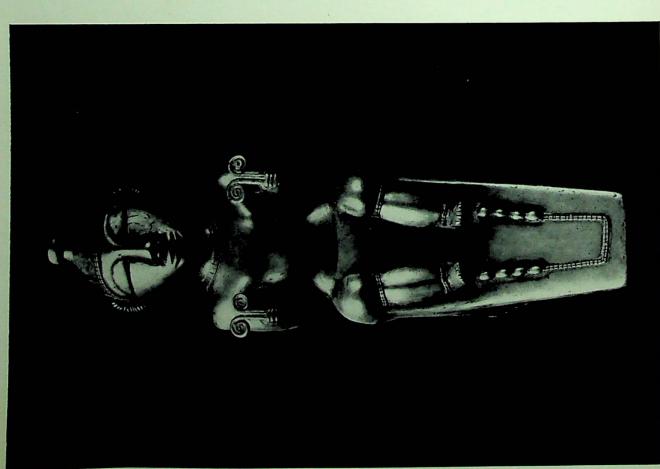
(A) Gold pectoral from Colombia, Calima style, 700–1000(?) New York, Museum of Primitive Art



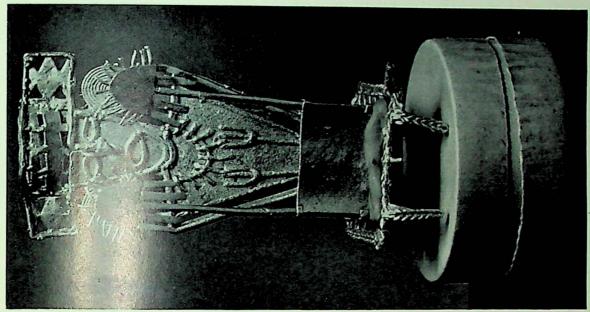


(A) Gold casting of a man with bat attributes, from Colombia, Darién style, after 1000. New York, Museum of Primitive Art





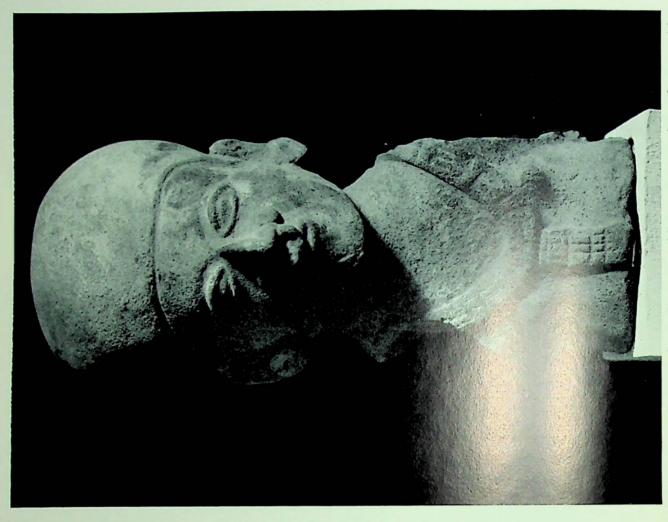
(A) Seated figure from Colombia, Quimbaya style, after 1300. Cast gold. Philadelphia, University Museum



(B) Dignitary on litter from Colombia, Chibcha style, c. 1500. Cast gold. Formerly New York, Baron von Schoeler

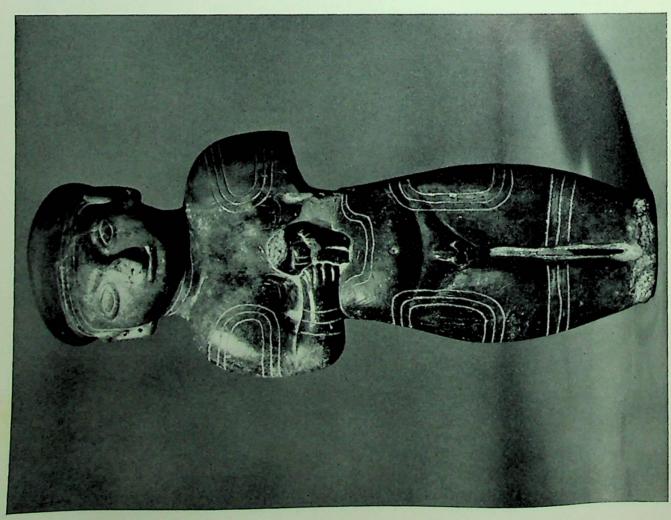


(A) Amulet from Colombia, Quimbaya style, after 1300. Cast gold. Cleveland Museum of Art, Norweb Collection

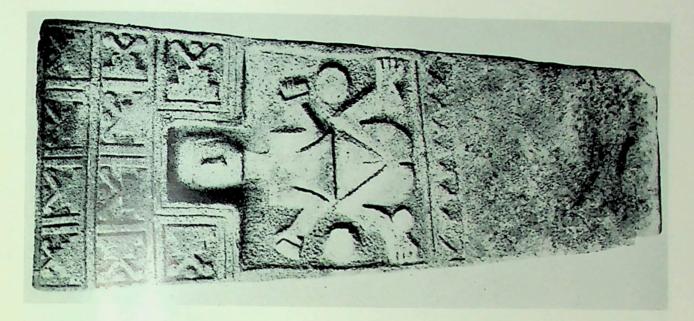


(B) Pottery figurine from the Esmeraldas coast, Ecuador, after 1300(?)

Brooklyn Museum



(A) Red-ware whistle figurine from Guangala, Ecuador, c. 500(?) Cambridge University Museum of Archaeology and Ethnology

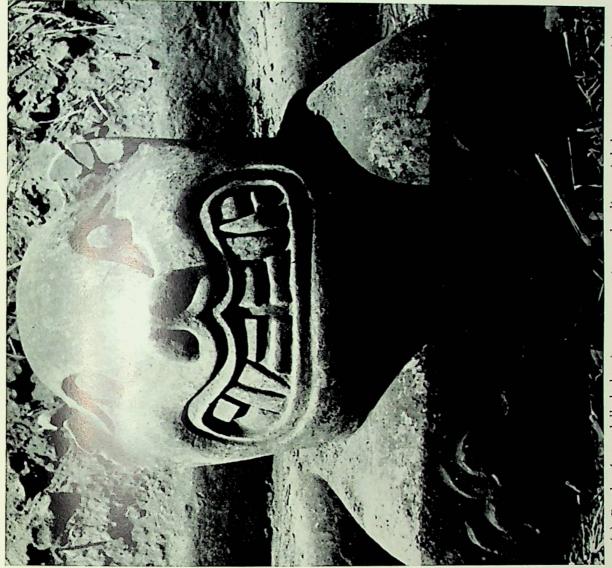


(A) Stone seat from Manabí, Ecuador, c. 1400(?) New York, Museum of the American Indian

(B) Stone slab carved in low relief from Manabí, Ecuador, before 1400(?) New York, Museum of the American Indian



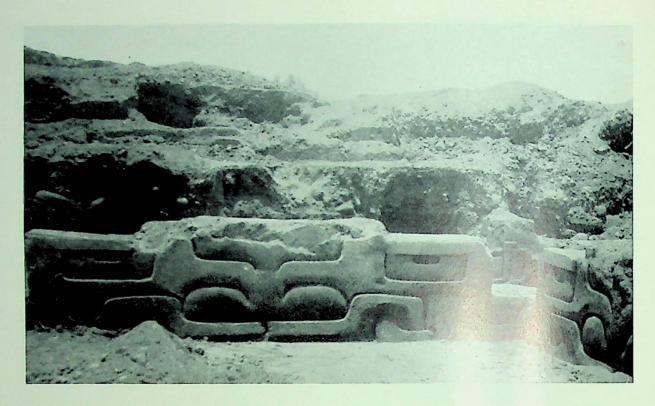
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(B) Punkurí, modelled clay jaguar on stairway landing, eighth century B.C.(?)



(A) Sculptured stone panel LIX, revetment, from Cerro Sechín, ninth century B.C. Lima, Museo Nacional

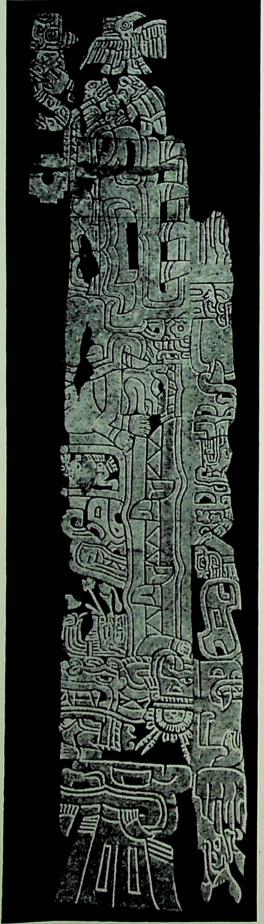


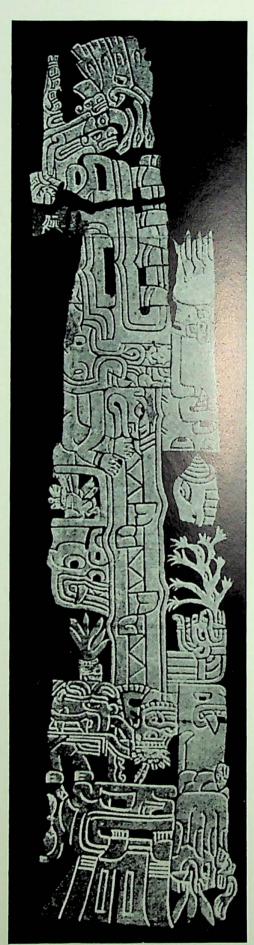


Cerro Blanco (Nepeña Valley), carved clay platform, eighth century в.с.(?), with reconstruction



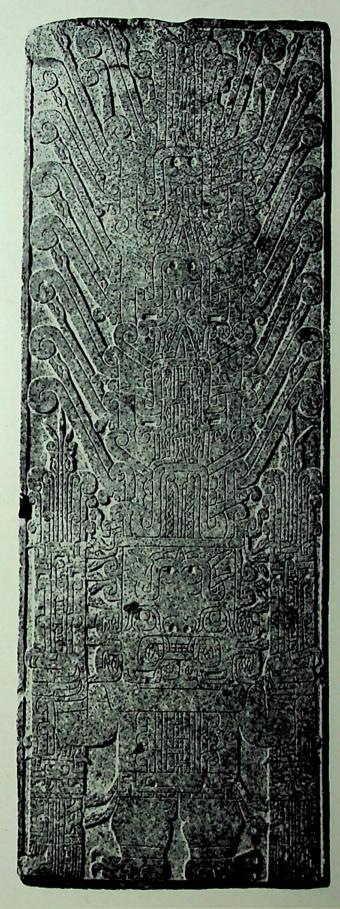
Chavín de Huántar, carved monolith (lanzón) in interior gallery of the pyramidal platform, after 800 B.C.(?)







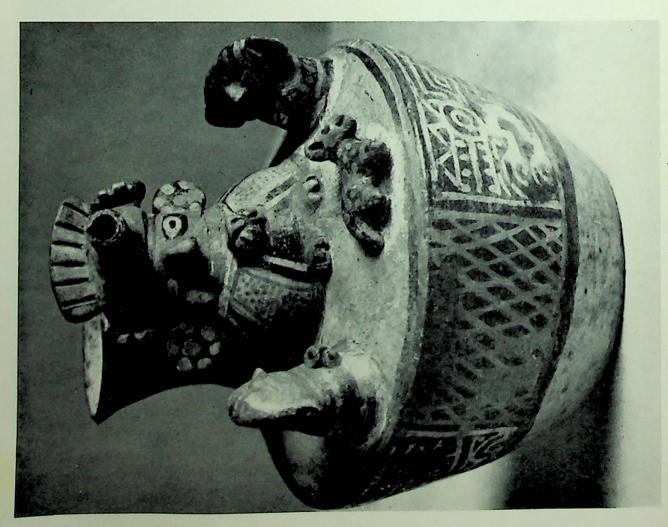
Tello Obelisk from Chavín de Huántar, showing diagrams of incised relief panels, seventh century B.C.
Stone. New York, American Museum of Natural History



Raimondi Monolith from Chavín de Huántar, c. 500(?) Incised diorite slab. *Lima*, *Museo Nacional* 



(B) Painted pottery effigy vessel, Recuay Style B, A.D. 500(?) Lina, Museo Nacional

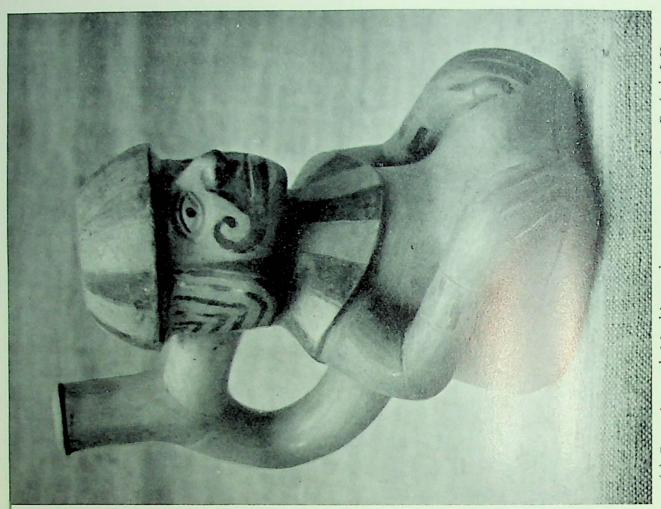


(A) Resist-painted pottery vessel, Recuay Style A, c. 500 B.C. Lima, Museo Nacional





Vessel forms of coastal Chavín ('Cupisnique') style, 800 B.C.-A.D. 200 (Left) A type. University of Trujillo, Museum; (right) B-C type. Lima, Museo Nacional



(B) Portrait vessel, Mochica style, 500 B.C.-A.D. 800. Periods I-II. Lima, Museo Nacional



(A) Pottery vessel, coastal Chavín style, 800 B.C.-A.D. 200, D type. Chiclín, R. Larco Hoyle

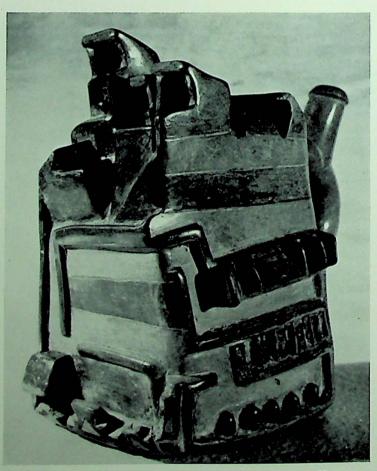




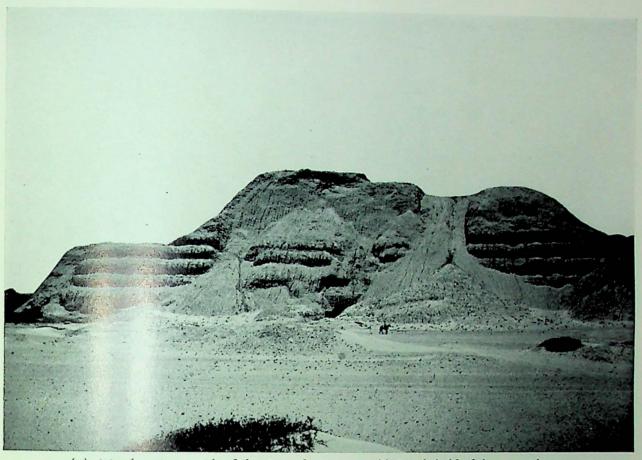
Portrait vessels, Mochica style, 500 B.C.-A.D. 800 (Left) Period III. Chicago, Art Institute, Cummings Collection; (right) Period IV. Chicago, Art Institute, Buckingham Fund



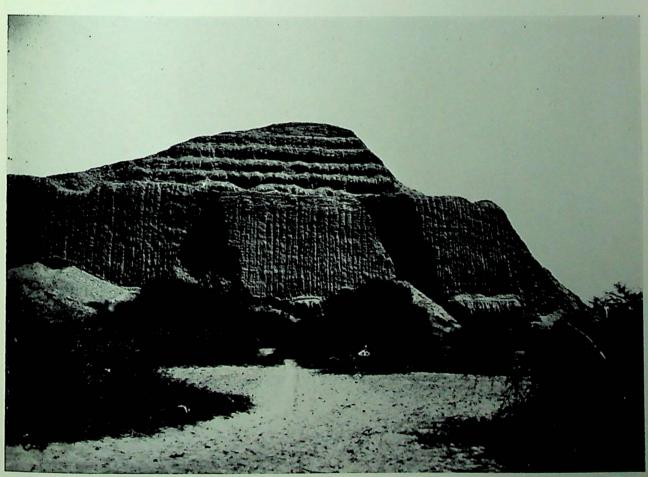
(A) Pottery house vessel from the Virú Valley, Salinar style, fourth century B.C. Lima, Museo Nacional



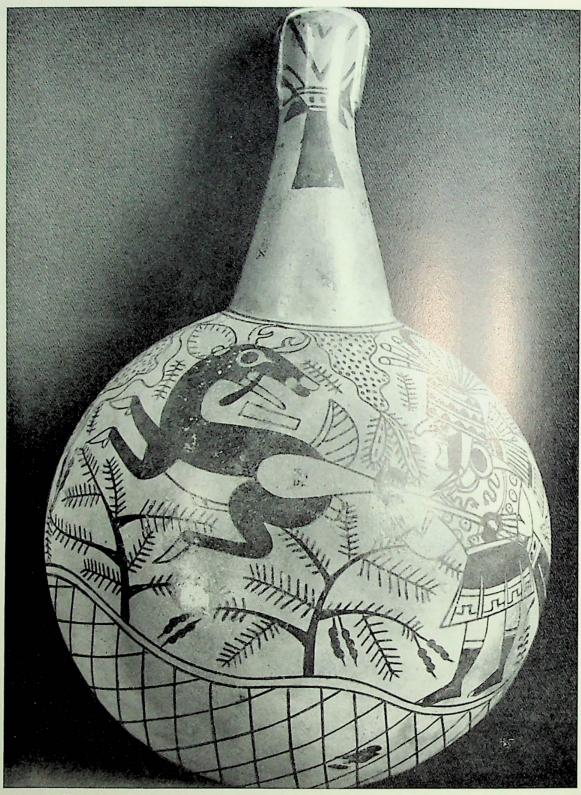
(B) Pottery house vessel from the Virú Valley, Mochica I style, fourth century B.C.(?) Lima, Museo Nacional



(A) Moche, Pyramid of the Sun, first century(?) South half of the east side, 1899



(B) Moche, Pyramid of the Sun, first century(?) South side seen from ground level, 1899



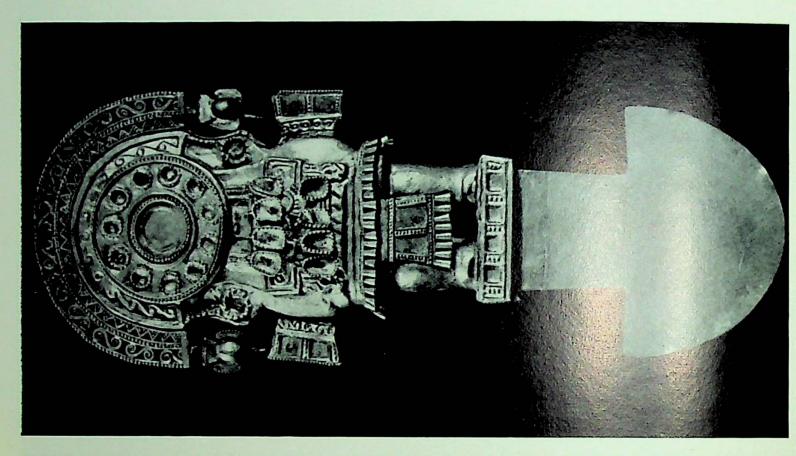
(A) Shallow-handled pottery dipper with painted deer-hunting scene, from the north coast, Mochica III style, second-third centuries (?) Lima, Museo Nacional

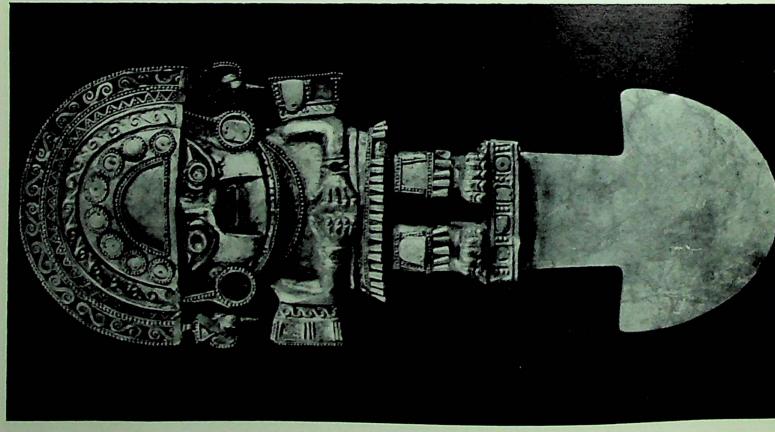


(B) Dancing deer, relief scene on Mochica III-IV pottery vessel from the north coast, c. 500(?) Berlin, Museum für Völkerkunde

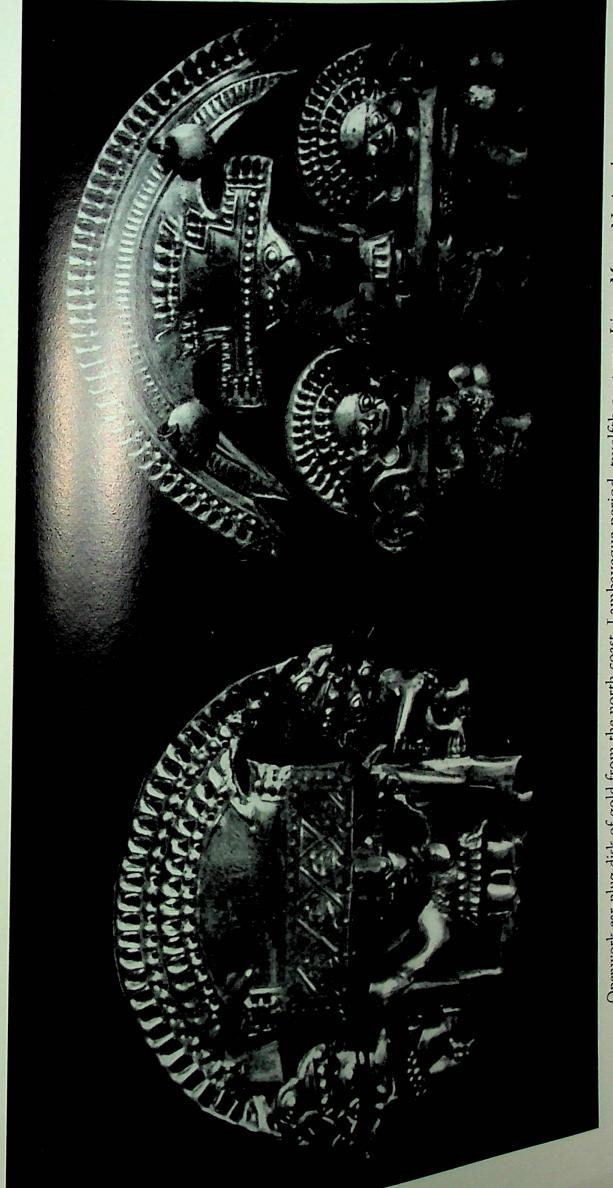


Huaca Dragón, near Chanchan, carved adobe wall decoration,  $\epsilon$ . 1100

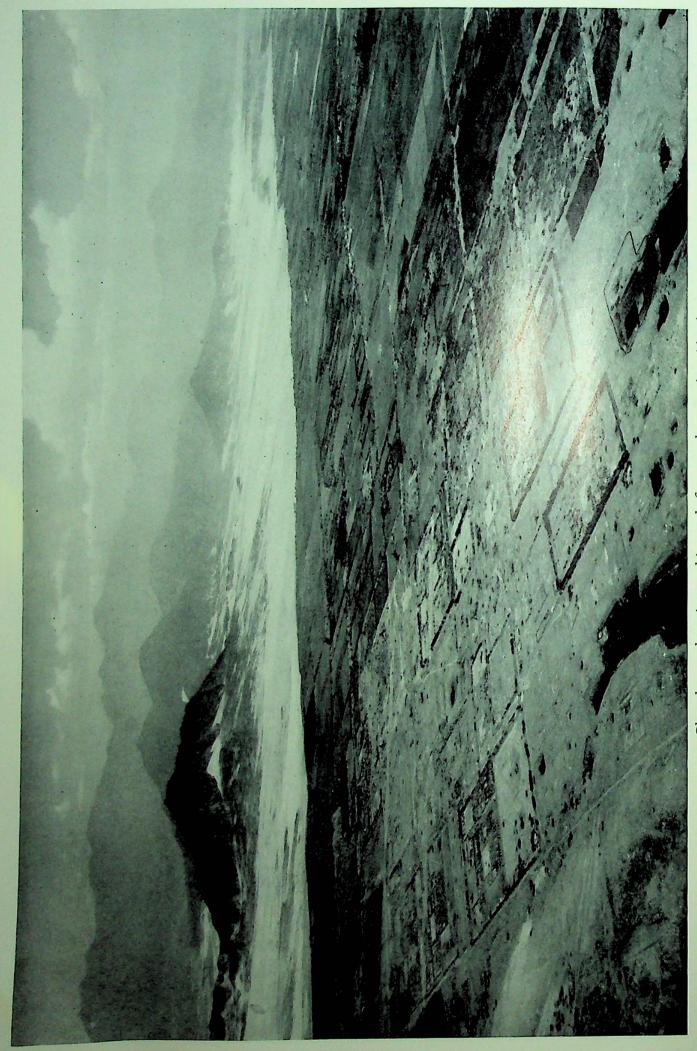




Ceremonial knife with figure of Naymlap(?) from Illimo (Lambayeque Valley), twelfth century. Gold inlaid with turquoise. Lima, Museo Nacional

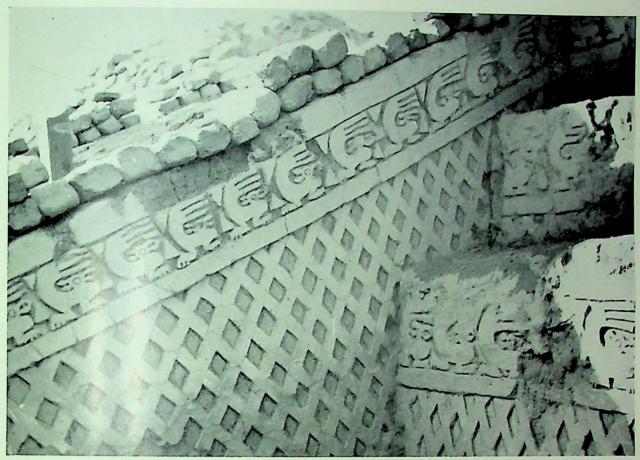


Openwork ear-plug disk of gold from the north coast, Lambayeque period, twelfth century. Lima, Museo Nacional

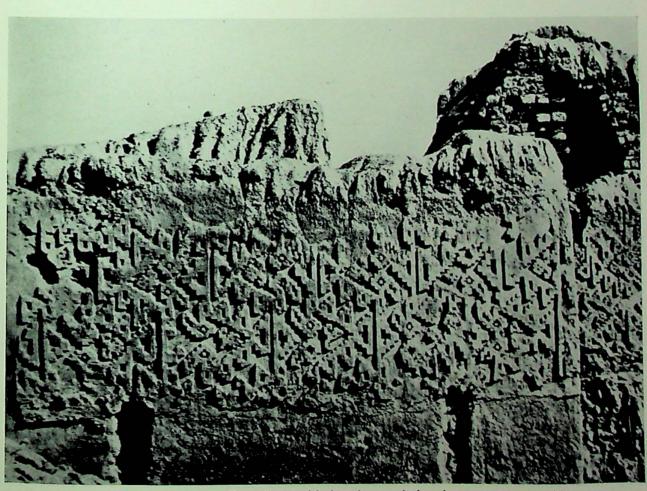


Chanchan and environs, thirteenth-fourteenth centuries. Air view

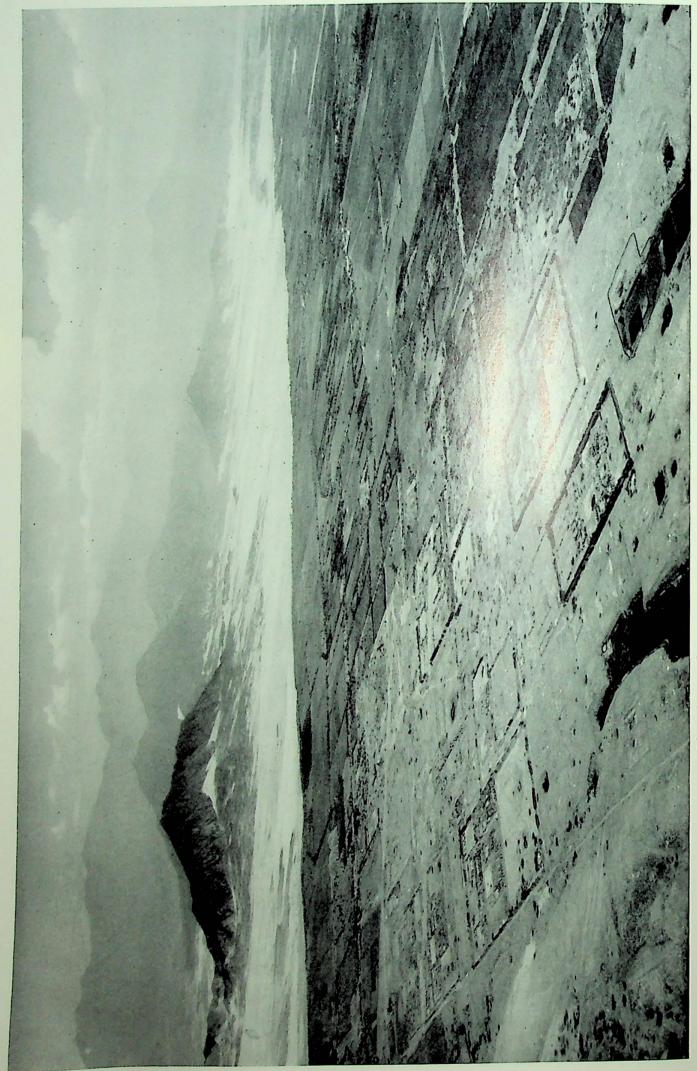
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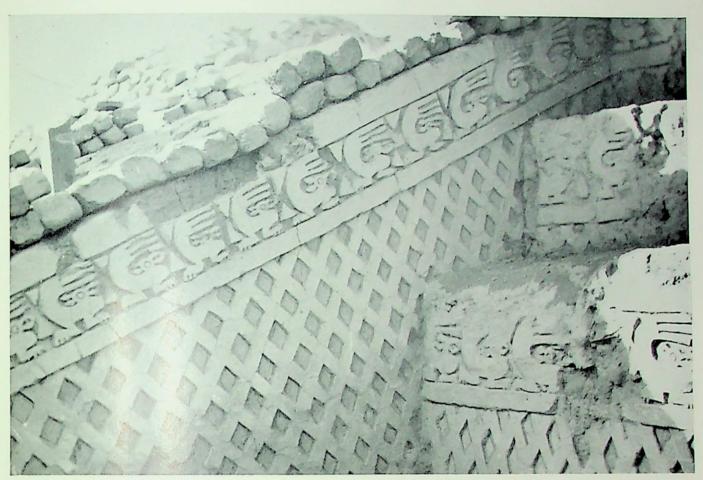
(A) Chanchan, Huaca La Esmeralda, moulded and carved clay wall decoration at ramp, fourteenth-fifteenth centuries(?)



(B) Chanchan, wall with moulded and carved clay decoration, c. 1400(?)



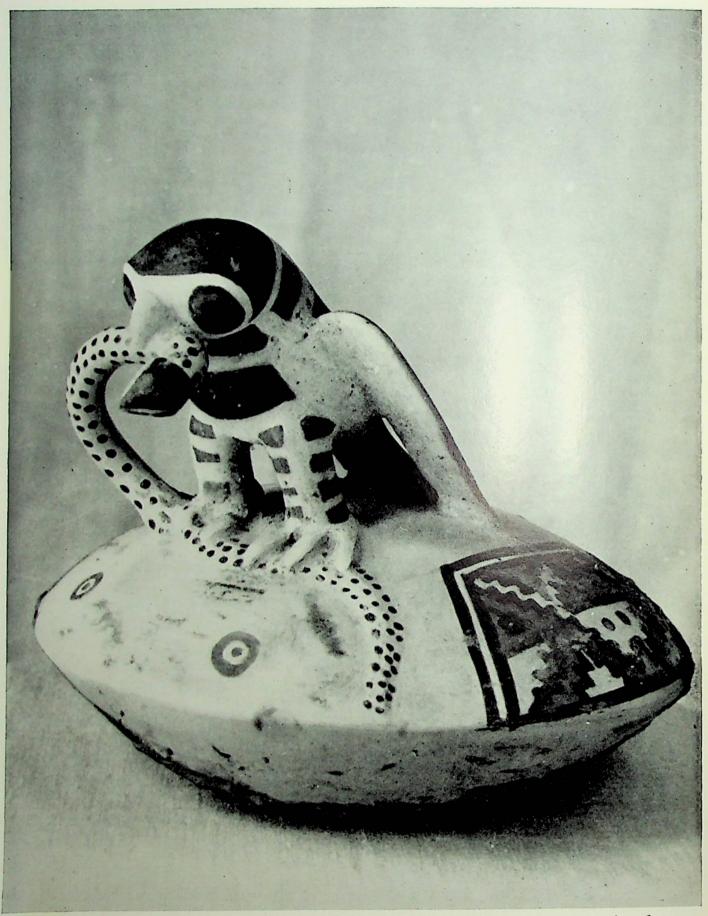
Chanchan and environs, thirteenth-fourteenth centuries. Air view



(A) Chanchan, Huaca La Esmeralda, moulded and carved clay wall decoration at ramp, fourteenth-fifteenth centuries(?)

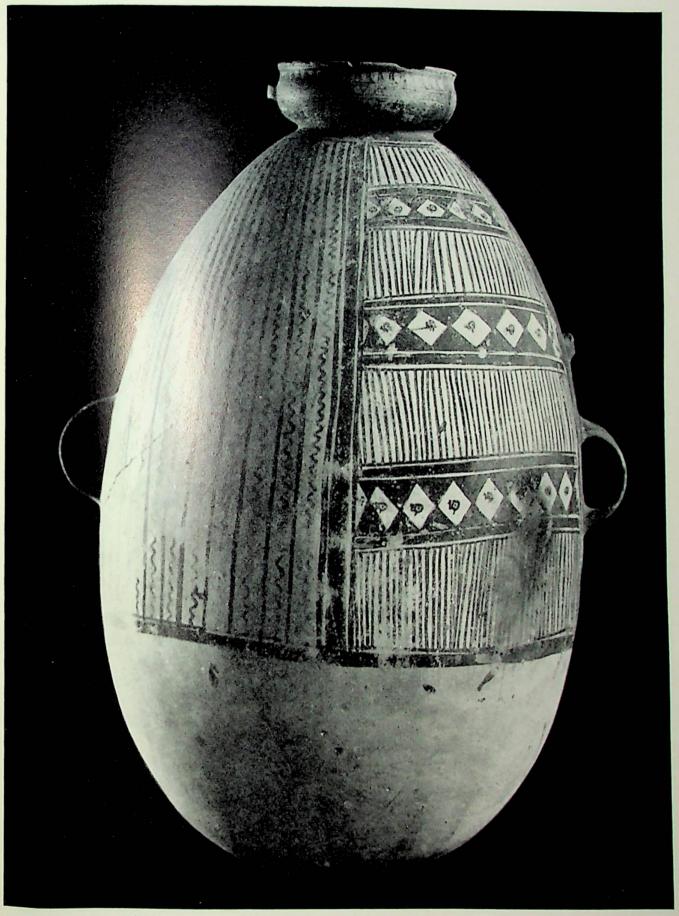


(B) Chanchan, wall with moulded and carved clay decoration, c. 1400(?)



Polychrome pottery showing eagle and serpent, from Cajamarquilla, Proto-Lima style, after 500.

Lima, Museo Nacional

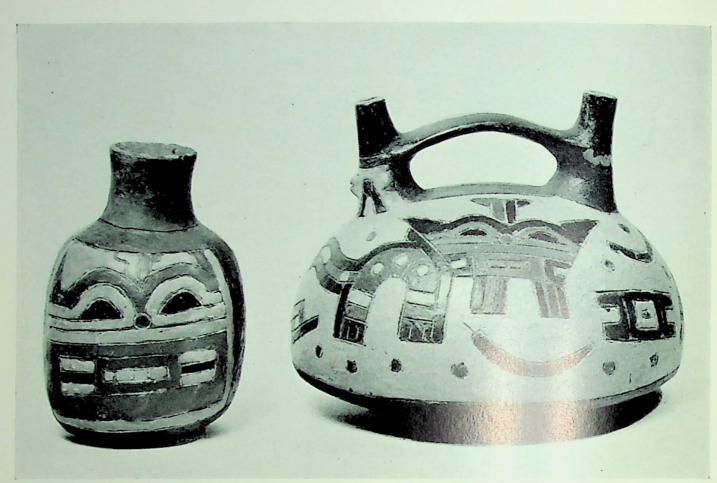


Polychrome pottery vessel from Chancay, Pasamayo river, c. 1500.

Lima, Museo Nacional

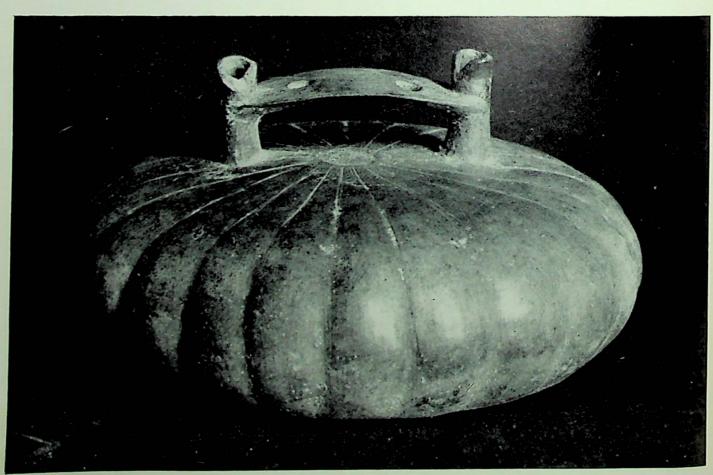
Pachacamac, Inca platform (left), platform of the Tiahuanaco period, tenth-eleventh centuries (right)





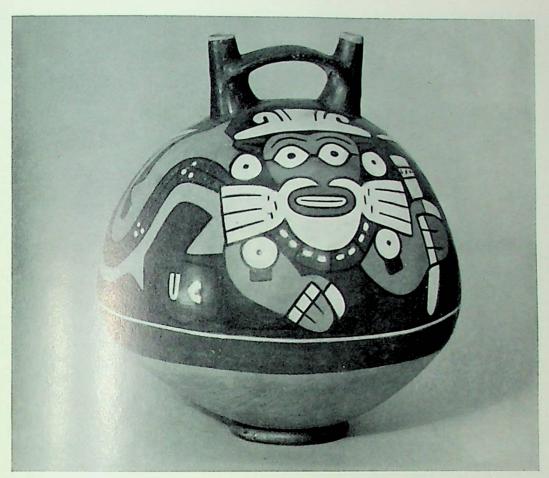
(A) 'Crust-painted' pottery from the Cavernas site, Paracas peninsula, first and second centuries.

New York, American Museum of Natural History, Gift of John Wise

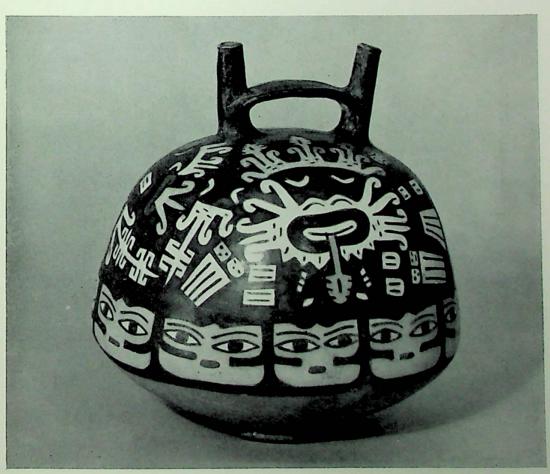


(B) White-slipped pottery from the Necropolis site, Paracas peninsula, third century.

Lima, Museo Nacional



(A) Polychrome pottery vessel from the south coast, Nazca A style, before 500. Chicago, Art Institute



(B) Polychrome pottery vessel from the south coast, Nazca B style, sixth or seventh century. Chicago, Art Institute

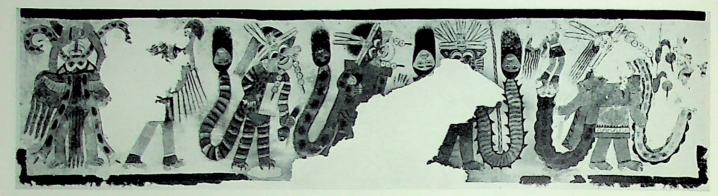


Double cloth from the Cavernas site, Paracas peninsula, first century(?)

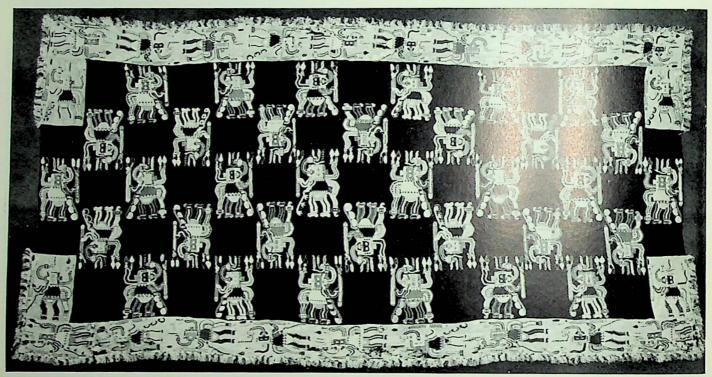
Lima, Museo Nacional



Personage wearing whale-killer attributes, cotton embroidery, from the Necropolis site, Paracas peninsula, before 300. Lima, Museo Nacional

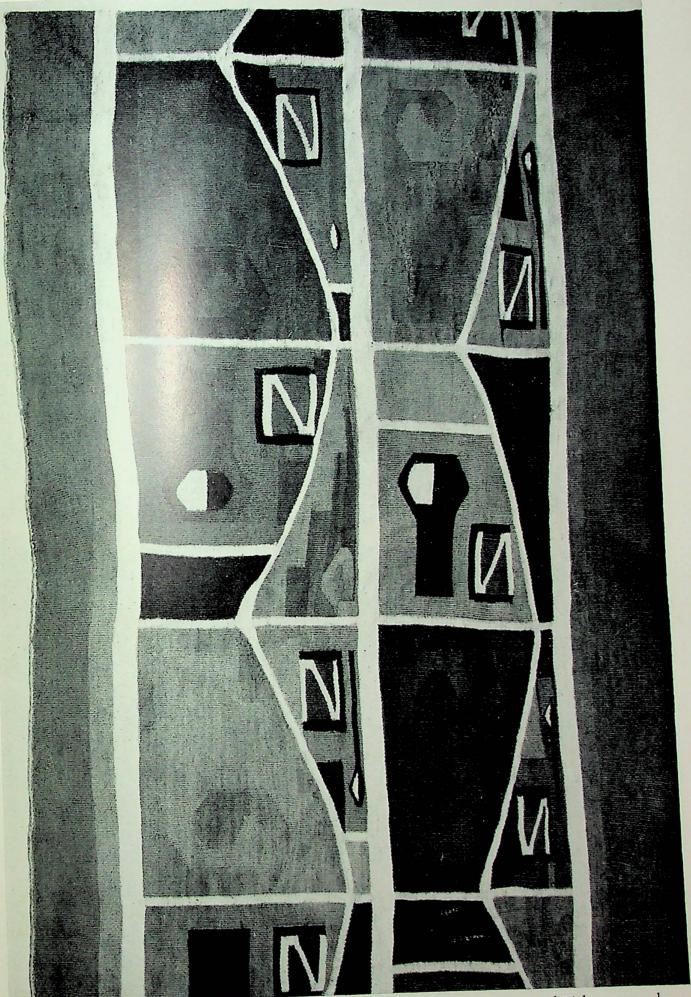


(A) Personages in animal costumes on painted cotton cloth, from the Necropolis site, Paracas peninsula, Nazca style, before 300(?) Cleveland Museum of Art, Norweb Collection

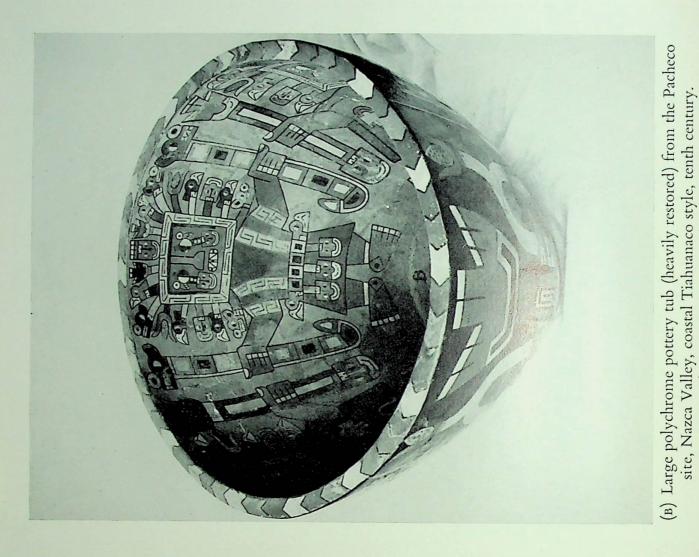


(B) Embroidered Paracas mantle, black ground, from Necropolis, before 500.

Providence, Rhode Island, Museum of Art

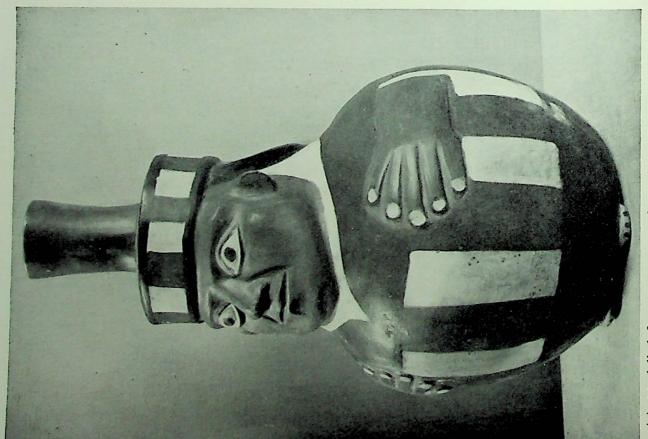


Face-and-scroll theme, cotton-and-wool tapestry, from the south coast, coastal Tiahuanaco style, tenth-twelfth centuries. Washington, National Gallery, Bliss Collection

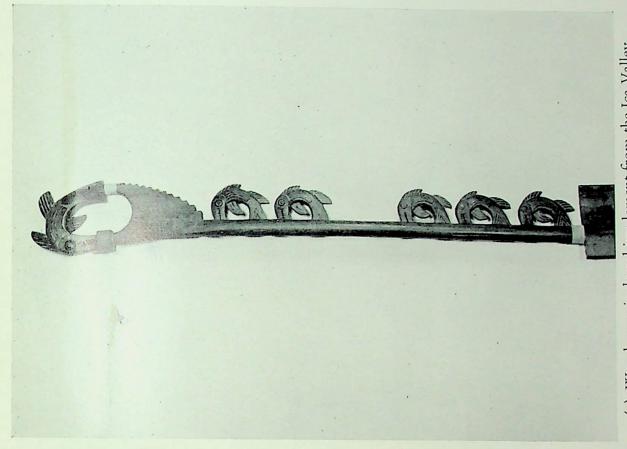


(A) Modelled-face pottery vase from the Pacheco site, Nazca Valley, coastal Tiahuanaco style, tenth century. Lima, Museo Nacional

New York, American Museum of Natural History



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(B) Wooden agricultural implement from the Ica Valley, thirteenth-fourteenth centuries.

Cleveland Museum of Art, Norweb Collection



(A) Painted pottery bowl, textile themes, from the Chincha valley, Ica style, thirteenth-fourteenth centuries. Lima, Museo Nacional

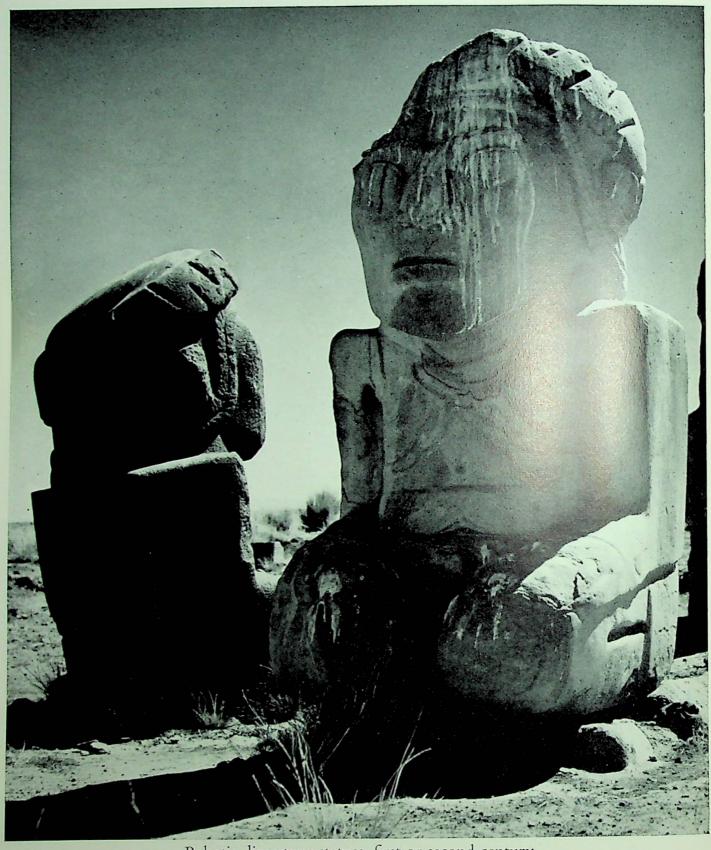


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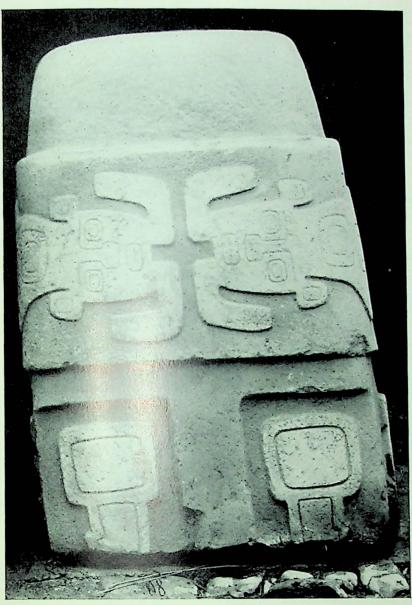




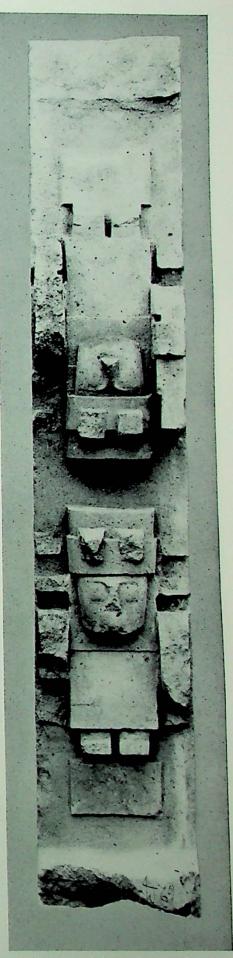
Incised polychrome pottery vessels from Pucara, first century B.C. Lima, Museo Nacional



Pokotia, limestone statues, first or second century



(A) Tiahuanaco, flat stone idol, before 300



(B) Stone slab with two figures from Tiahuanaco, fourth-fifth centuries. La Paz, Museo al Aire Libre



Tiahuanaco, monolithic figure, after 300

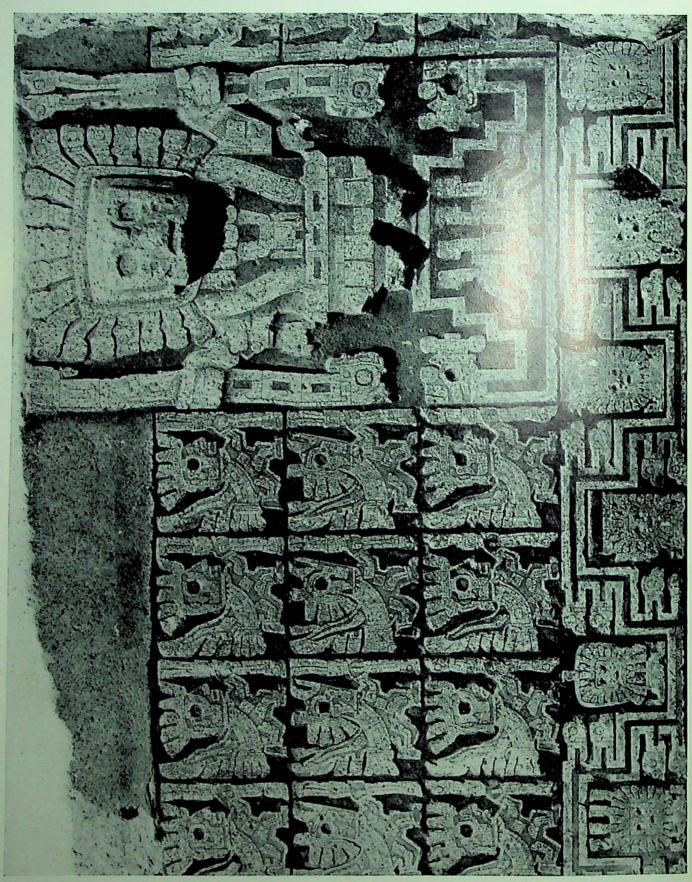


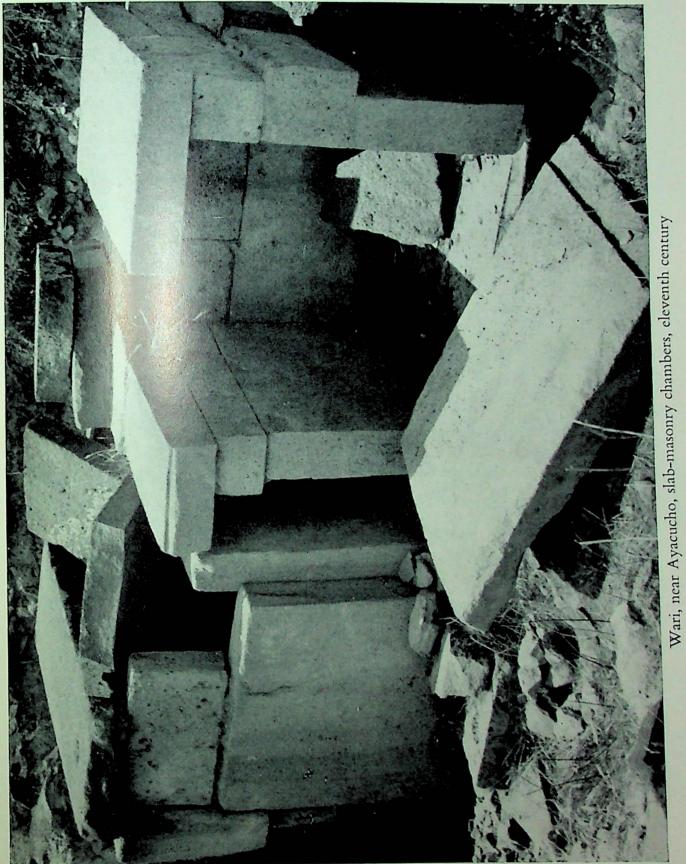
(A) Pottery bowl, cream on red, from Chiripa, c. 500 B.C. New York, American Museum of Natural History



(B) Pottery bowls from Tiahuanaco, Classic (centre) and Late Tiahuanaco styles, after 300.

New York, American Museum of Natural History







Polychrome pottery effigy vessel from Anja, Department of Jauja, Mantaro Valley style, eleventh century. Whereabouts unknown



Inca polychrome pottery vessel, 'aryballos' form, after 1450.

Lima, Museo Nacional

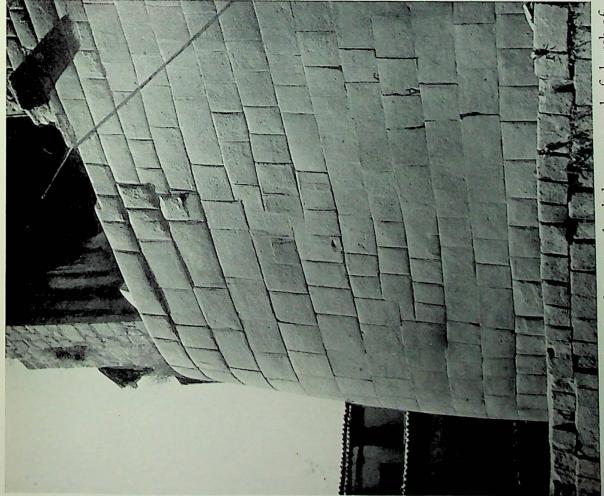


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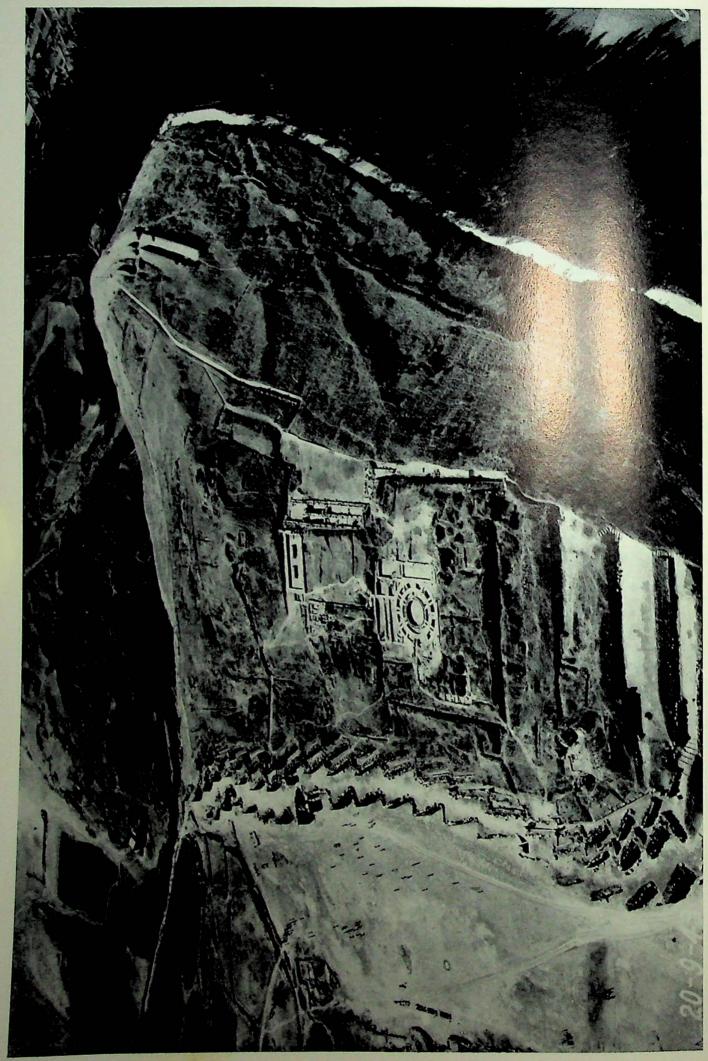


(B) Cellular stone slab, possibly architectural model, from Cabana or Urcon, province of Pallasca (Ancash), fifteenth century(?)

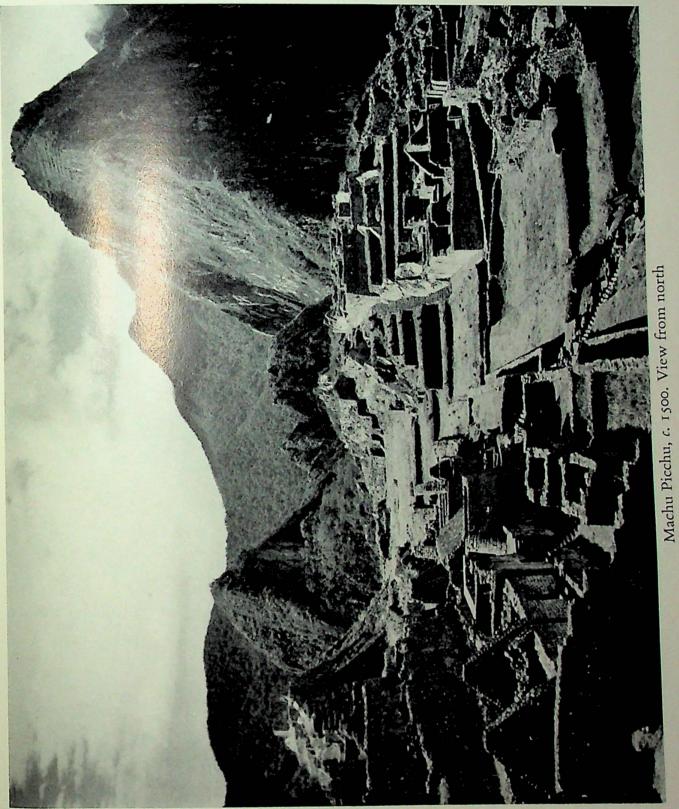
Paris, Musée de l'Homme

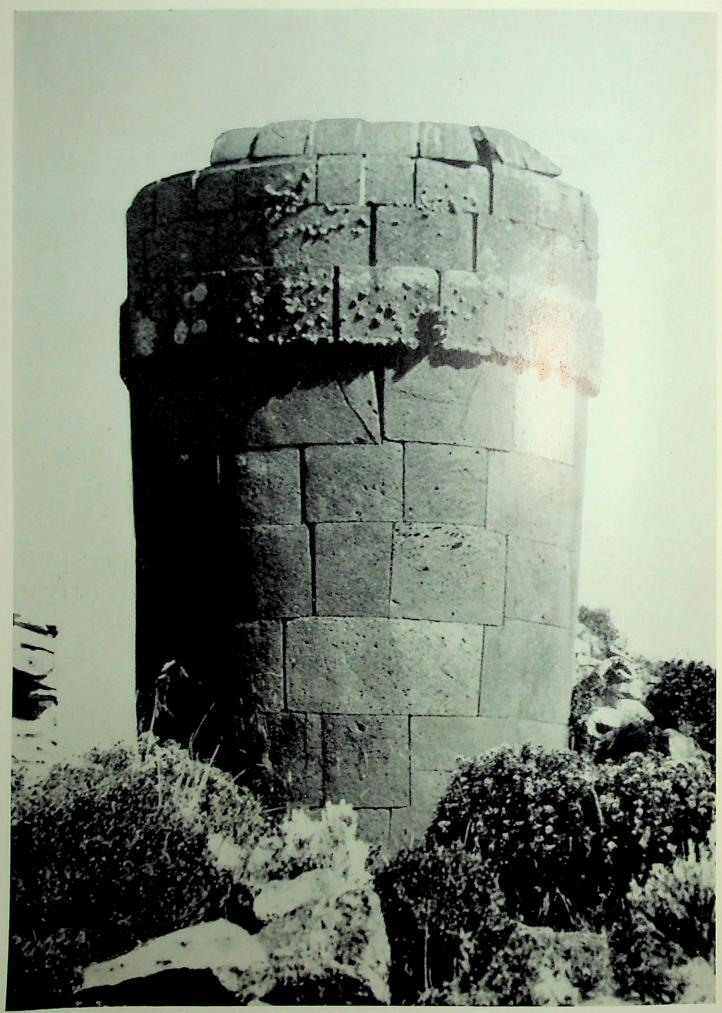


(A) Cuzco, carved wall of Coricancha, below west end of church of Santo Domingo, fifteenth century

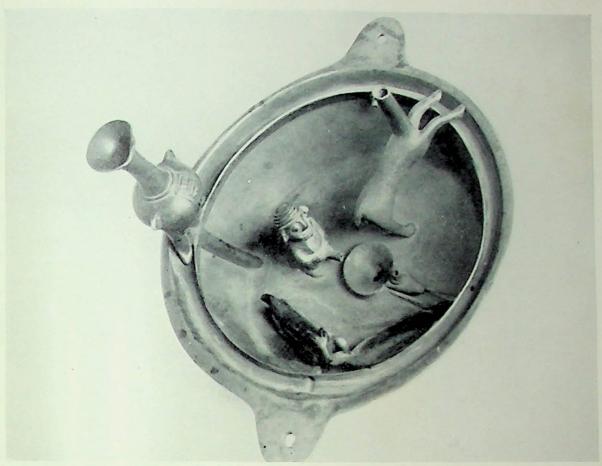


Cuzco, terraces of Sacsahuamán, mid fifteenth century. Air view

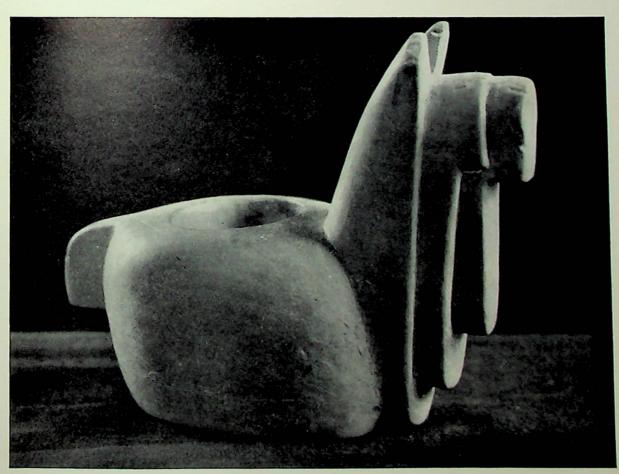




Sillustani, burial tower, fourteenth-fifteenth centuries(?)

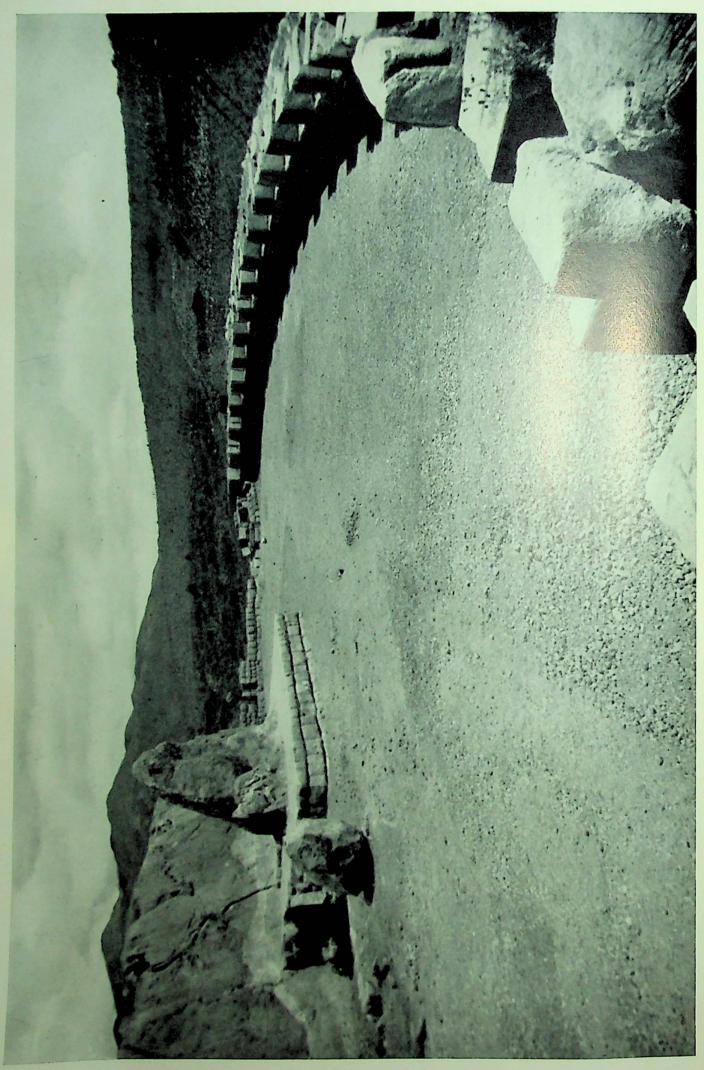


(A) Silver double-shell vessel with gold inlay, from Cuzco, c. 1500. Cuzco, Museo Arqueológico



(B) Stone figure of llama used for votive offerings, from the South Highland, c. 1500.

Lima, Museo Nacional



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